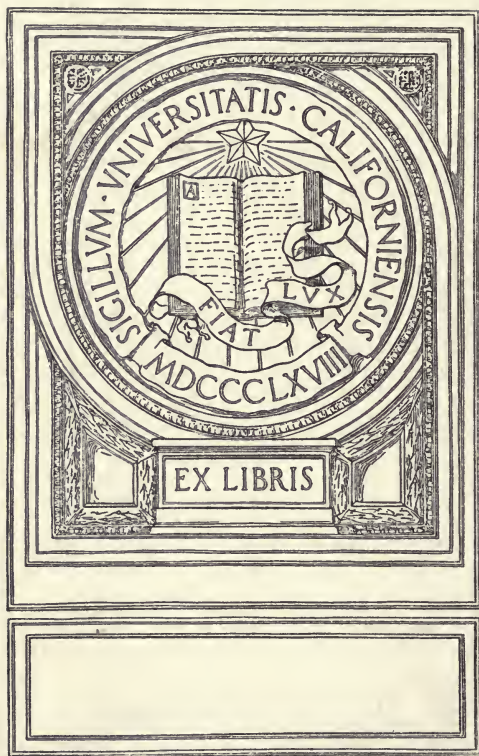




THE BUSINESS OF HOME MANAGEMENT

THE BUSINESS OF HOME MANAGEMENT

(THE PRINCIPLES OF DOMESTIC ENGINEERING)

BY

MARY PATTISON



NEW YORK
ROBERT M. McBRIDE & CO.

NEW YORK
ROBERT M. McBRIDE & CO.

1918 (1915)

COPYRIGHT, 1915, BY
MRS. FRANK A. PATTISON

T x 145
P3

405372

Printed in the United States of America.

70 VMD
ANNO 1915

WRITTEN IN THE INTEREST OF
THE CLUB WOMEN OF NEW JERSEY

and

DEDICATED

TO THE VERY BEST HUSBAND IN THE
WORLD, WHO HAS THROUGH HIS UNSELFISH
ATTITUDE AND GENEROUS DISPOSITION
MADE POSSIBLE THE ACCOMPLISHMENT OF
WHATEVER IS CONTAINED IN THESE PAGES

PREFACE

This book is presented not for its literary value, but as a record and result of the Housekeeping Experiments conducted at Colonia.

It is a sort of report to the public for the public's interest, and also a contradiction to the sometimes justifiable criticism that the work of Club Women is apt to be dilettante, and their plans unmatured. This undertaking was carried on, as designed by, for, and with, the Club Women of New Jersey. The original intent being, to rouse the thought of the women of the State to possibilities of greater housekeeping—returns to purse—personality—and public progress, through the introduction into the home of modern machines, modern methods, and modern motives; the elimination of human and material waste—through freedom from mere tradition and social custom—and the conservation of time, health, money, and beauty in closer domestic co-operation; as well as the establishment of a Home Economic course in the State College, which course is now existent. M

The idea was to meet what has been generally termed the "Servant Problem." To do this the social and economic—as well as the personal—factors concerned in this phase of capital and labor have been pointed out, together with the unjust results to both sides in our present custom and form of contract, and the immense profit that will follow in the wake of professionalizing—on a business basis—such essential and potentially high class labor. |

Our hope is to bring the masculine and feminine mind more closely together in the industry of home-making, by raising housework on the one side to the plane of Scientific Engineering; and by proving on the other, fuller individual returns for every complete and right domestic activity, to the end that the Home may develop progressively more and more as the efficient unit of the State.] W

The present volume is larger and very different from the

PREFACE

booklet report intended in the beginning. It has developed of itself, unintentionally, taking this form through unexpected University interest.

An unconventional feature included at the end of the book is a list of approved household articles and where to procure them. Because these are questions constantly asked, and because the author feels that the educational and commercial interests should have closer co-operation, she has seen fit to include this partial list of Business Houses.

In no case has any profit accrued to her in so doing, and in only two instances have the firms listed known their names would appear.

In conclusion, if there is anything of value within these pages suggestive to the present home-maker, or helpful to future ones, it is the result of pleasant and profitable hours of research, study and test; and the interested co-operation of other women, particularly those of the Club in Colonia, who have been untiring in their kindly service to the idea—the Conservation of the individual Home.

M. P.

Colonia, New Jersey.

TABLE OF CONTENTS

PART I

THE PRACTICAL HOME

FIRST CHAPTER

WHAT IS A HOME?

One's purpose, object, or ideal in producing a home—What it is—What it should stand for—Its meaning to the family and to each member thereof—The difference between home and institution—Why the conservation of the private home is worth while—Why not live in hotels or blocks of living—The more important, the economics of money, or of men and life—The difficulty of mass development—The small group the ideal order.....Page 29

SECOND CHAPTER

GENERAL SURVEY OF THE HOME

The status of the modern home—A general outlook upon the home as it is—The different classes of homes—The points of relation between them all—The evolution of the home, and the reason for a new conception—Why it is as it is—The practical working out of an ideal from present conditions—The results from the large number of questionnaires sent out by the Station and upon which the work was founded.....Page 35

THIRD CHAPTER

THE BUDGET

In the practical production of the home, the Budget, or the money available, is of prime importance—The value of the Budget in establishing standards and educating for the business of purchasing—Considered as a developer and as a controlling factorPage 47

FOURTH CHAPTER

THE ELIMINATION OF THE SERVANT CLASS

Why the Servant Class should be eliminated—The evolution from the slave—The Mediæval form of contract—The old-time "Mem- 

CONTENTS

ber of the family" sort extinct—Some appalling statistics of the present day—The very small percentage of people who keep servants—The Specialist—The limitation they put upon the progress of the home and the actual scarcity of them in the field—The cost of servants—Their degenerating effect upon the family...PAGE 52

FIFTH CHAPTER

AN AUTO-OPERATIVE HOUSE

A simple system of indexing and cataloging that tells the place of everything in the house—A simplifying method of self-showing to the stranger who would take charge at a moment's notice—A great relief to the woman who feels she is indispensable in order that the house may be kept running—Periodical housecleaning unnecessary—Mutual dependence makes for an order of independencePAGE 59

SIXTH CHAPTER

THE BUSINESS OF PURCHASING

How to spend—Training in the knowledge of values—The materials one should buy and what each purchase means to other housekeepers—The shop, the dealer, the trade, and the standard of business in the town—Honest labels—Textiles—Proper weights and measures—Inspected foods, package goods, cold storage, etc., and the conditions in delivery.....PAGE 65

SEVENTH CHAPTER

THE ROUTE OF MATERIAL

The route the material takes from the receiving station, or place of entrance in the house, to the final use—The storage of each class of goods—Their classification and the ease of accessibilityPAGE 73

EIGHTH CHAPTER

THE INSTRUCTION BUREAU

The housekeeping library—The classification of all household instruction, receipts, patterns, designs, plans, etc.—A reservoir of perpetual education in all home-making subjects—A convenient way of keeping one's self up to date in household matters—A reference of the best-known ways—A source of instruction to which one adds and takes as occasion suggests.....PAGE 80

CONTENTS

NINTH CHAPTER

HOUSEHOLD EQUIPMENT, UTENSILS AND DEVICES

The result of the Experiment Station's tests in machinery and devices of all sorts—Those constructed upon the best principle and with standard material—A detailed description of their use, care, cost, and profit, and where and how they should be purchased—Their inter-dependence—The Machine and the ServantPAGE 84

TENTH CHAPTER

THE ELIMINATION OF DRUDGERY

Analysis of the different departments of housework—What is Drudgery—Why it should be eliminated—Machine labor generally cheaper than hand labor—The difference in the quality of work—What sort of work should be done by hand and what by machine—Ignorance the only excuse for drudgery.....PAGE 96

ELEVENTH CHAPTER

TIME AND MOTION STUDY

What is time and motion study—The three motives in all movement—Analysis of each piece of work, or operation, into its units—The use of a stop watch—The standard time for each task—The elimination of waste motions—Examples in the study of units—Scraping a plate, cutting bread, etc.—The organization of one's surroundings so that the greatest efficiency may result—Planning ahead and dispatching—The head and the hand in each task—How they should work together—Why they should not work together—Records and results of special tasks studied at the Station—Preparing vegetables—Getting a breakfast—Washing dishes, dusting stairs, washing, ironing, etc.....PAGE 103

TWELFTH CHAPTER

THE REGENERATION OF THE KITCHEN

Kitchen atmosphere of beauty, health and well-being should permeate entire house—not a place to get away from, but to attract with charm of hospitality, activity, ease and contentment—A revaluation needed—Fire and civilization—The kitchen stove the pivot—Comparative cost of coal, alcohol, gas and electricity—Cost of cooking vegetables, meat, etc.—Description of a studio kitchen—A Pullman car kitchen—The kitchen at the station—Ugly fixtures

CONTENTS

a common difficulty—Cleanliness and beauty—The real meaning of the kitchen—Home, fire and food.....PAGE 112

THIRTEENTH CHAPTER

THE EFFICIENT LAUNDRY

Laundry work in the home affected by machinery—The scientific way to wash—A description of the laundry at the Station, and why it was so arranged—Some records in special tasks—Modern possibilities in ironing—Comparison with the old way—Co-operative laundries—Why a machine should be used by more than one familyPAGE 122

FOURTEENTH CHAPTER

FOOD, ITS PREPARATION AND VALUE

What one should eat to be strong—Food adulterations—How to feed a family—A list of foods worthy one's time in preparation—Some simple ways of procuring the required nourishment—The danger in denatured foods—"Brown rice" and whole grains—Foods in season—Simplicity in preparation—The value of flavor—The futility of most "made dishes"—Some successful menus—The importance of knowing the right temperature for each article to be cooked—Easy methods of serving—The use of the fireless cooker—Some results in bread making—The three classes of foods—An efficiency breakfast—An efficiency luncheon—Fashion in foods—Scientific food values.....PAGE 129

FIFTEENTH CHAPTER

SYSTEM IN HOUSEKEEPING

Definition of System, Principles—from which each must develop an individual system—The object of a flexible system—What it means to run a house on the efficiency system—Why it is the only means of growth—The meaning of the days of the week—The psychology of system—The Taylor System—Emerson's twelve principles—The value of immediate records—Standards and schedules—Planning and dispatching.....PAGE 144

SIXTEENTH CHAPTER

SKILLED LABOR

How to supply the demand for skilled labor—The formation of a labor corporation in each city, with expert workers for all parts

CONTENTS

of housework—Nature of such contracts—Time of service—Comparative cost with old methods—Some results from the Station's records—The possibilities of an eight-hour day, etc.PAGE 154

SEVENTEENTH CHAPTER

STANDARDIZATION

What Standardization means to the home and to one's habit of thought—A summing up of approved standards throughout the home, in conditions, equipment, material, operations and results—The education in scientific management—Home standards of Art, Philosophy, Science, Business and Religion.PAGE 162

PART II

THE PERSONAL HOME

FIRST CHAPTER

PERSONAL FREEDOM

The family exists that the individual members may best develop—The value of establishing independence in the very young—All phases of personal dependence to be avoided—The dependent wife—The independent grandparents—What individual independence means in relation to personal freedom—The highest human efficiency centers in individual independence.PAGE 171

SECOND CHAPTER

THE ORGANIZATION OF THE FAMILY

The family as the larger order of individual—Its organization around an Ideal, or object of common understanding and sympathy—The purpose of the home a united ambition—Coming together at stated yet informal intervals as a club would meet—The family gathering for weekly discussion, and a program—When each should be heard, even the youngest—The constitution and by-laws simple, but to the point—Such meetings the modern evolution of the family prayer-meeting—All fault finding should be reserved for the proper time, or presented in writing—Criticism should be in-

CONTENTS

vited, even from the youngest—The whole efficiency system as it applies here—The wonderful results possible.....PAGE 175

THIRD CHAPTER

CO-OPERATION IN HOME ACTIVITIES

As the Efficiency System is better understood in the organization of the family, it becomes a co-operative force in maintaining the family—The difference between functional and authoritative management—Example in making a bed—Other records from the Station—How discipline enters here and makes for self-determination and control—The morning housework—Co-operative entertaining without servantsPAGE 180

FOURTH CHAPTER

THE HOME AND THE MONEY PROBLEM

Money not the real solution—*Ability* the answer in most cases—The danger of a money-making ideal, or habit—The virtue in ingenuity—Our whole thought of money needs to be reversed—The best people depend on their capability, not on their cash—The power of public opinion—The personal note—The servant problem and the highest bidder—What to do with leisure—Time our only concern—The value of labor versus money—The big personal result the most important.....PAGE 185

FIFTH CHAPTER

THE CULTURAL VALUE OF HOUSEWORK

The relation of the home to all that is finest in life—The isolated, detached, and commonplace attitude toward housework the cause of drudgery—The thoughtful and efficient worker—The literary side of the home—The art side—The historical, psychological, ethical, sociological, etc.—The meaning of culture, and the relation of every part of housework to a larger and deeper background of understanding than is generally allowed—The appalling waste through not appreciating this cultural value—Every detail should be considered in the light of broad knowledge—The necessity for the widest possible perspective—Woman the source and sustainer of life, yet knows little generally of natural sciencePAGE 189

CONTENTS

SIXTH CHAPTER

TRAINING FOR DOMESTIC ENGINEERING

What is meant by Domestic Engineering—How does it resemble and how differ from other forms of engineering—The keynote and the kind of training required—Self-knowledge the foundation—Business training—Mechanics—Manual skill, etc.—The principal fault in Woman's education—Cultivated intuition the highest feminine achievement—A list of subjects that could be made practically usefulPAGE 193

SEVENTH CHAPTER

THE MEANING OF ROOMS

Their expression through furnishings, coloring, texture and composition—Their relation to each other, and to the family life—The rooms as the mind and feeling of the house—The family the soul, and the house itself the outer form, or body—Fashion in furnishing—The logical way to furnish a house and the right use of a roomPAGE 198

EIGHTH CHAPTER

DOMESTIC INDEPENDENCE AND HOSPITALITY

Real hospitality—The Home and the Guest—What is meant by *Domestic Independence*—How it becomes the keynote in home-making—No one thing will make for greater progress in the home than this feeling of being equal to the situation—The Efficiency System in relation to visitors, guests, and entertaining—How to help people to look after themselves—The joy in producing one's own keep—The value of a Bulletin Board in the home—The independent going and coming—The model guest.....PAGE 204

NINTH CHAPTER

AN "EFFICIENCY" DINNER

Description of one of the efficiency dinners given at the Station—from the preparation of each article of food to the final bidding of the guests "good night." (This is an example that anyone can follow and improve upon.)PAGE 210

TENTH CHAPTER

CHILDREN AND THE EFFICIENCY SYSTEM

The welfare of children under this system—How they take to the idea without question, and become the best kind of students—

CONTENTS

N The nurse an abomination except in sickness and bodily helplessness—From the age of three, children should have instructors to make them self-reliant, not nurses to make for helplessness—The Efficiency Method and the Professional Playmate—The Day Nursery as an efficiency institution.....PAGE 215

ELEVENTH CHAPTER

THE BODY IN MOTION

The quality of bodily motion—A three-fold motive in every motion: (1) Accomplishment. (2) Exhilaration. (3) Beauty—How each can be best developed—The possibilities for bodily culture in the ordinary household movements—An efficient body, a strong body, a beautiful body, the result of housework.....PAGE 219

TWELFTH CHAPTER

THE BODY AND ITS GARMENTS

How the present standards in dress have been the result of the evolution and consciousness of the body—True standards in fashion—How one may dress "A la mode" and yet with another motive in mind—The influence of dress standards upon children—The economics of dress—Individuality—Beauty paramount, etc.PAGE 224

THIRTEENTH CHAPTER

THE TRAINING AND BEAUTY OF THE HAND

Individuality and the hand—Its personal expression—The misuse of the hand—The proper use—Its quality, texture, and shape a matter of cultivation—The importance of proper movements—The best manner of using the hand in housework—Its care, color, and smoothness—The way to treat it—The cultivated hand a great asset—Housework as a hand beautifier.....PAGE 229

FOURTEENTH CHAPTER

THE FIVE SENSES

The co-ordination and co-operation of the senses in housework—The environment important as it affects the senses—The senses the real basis of spirituality—The higher cultivation of taste and smell—The value of touch—The sense of sight as an educator—Why noises should be avoided.....PAGE 235

CONTENTS

FIFTEENTH CHAPTER

THE NEED OF BEAUTY IN EVERYDAY LIFE

Love of beauty a fundamental instinct—Should be given every chance for expression—Every intelligent effort should be made to push this instinct into its best use—Nothing can reach its maximum usefulness until it includes the element of beauty—The standards of beauty suggested in the Experiment Station—Color, tone, form, proportion, composition and expression—The home the center of the nation's æsthetic progress—The spirit and love of beauty as practical essentials in home life.....PAGE 240

PART III

THE PROGRESSIVE HOME.

FIRST CHAPTER

THE HOME AND POLITICS

Nothing in the home that is not affected by politics and the government, from the building, its inspection, and the standard of the material used, to the last article of furniture purchased—From the gas, electricity, and water, to the box of matches and the bottle of milk—Home-making no longer a private undertaking, but a public function, affected by municipal and state conditions—The school, the library, the market, and the roads—The larger housekeeping means efficient government, and the best possible talent for public office—Food, clothing, and shelter are now *political* interests; man's duty to provide these—woman's to guarantee their quality—The tools and weapons for their protection the obligation of man—The preparation for, and education in their use, the function of woman—Better homes will produce better citizens and better government—Better politics will make for better homes.....PAGE 247

SECOND CHAPTER

THE HOME AND SOCIETY

The relation between homes—How the standard of each affects the other—All have same fundamental character and same problems—The growing home the social unit—The real use of society—Fashion: its use and abuse—Society in the small and large circle, and the place the home should always hold—The social obliga-

CONTENTS

tion in every act—The highest social standards—An efficient society—Our relation to each other the most important thing in lifePAGE 251

THIRD CHAPTER

EDUCATION AND THE HOME

The school and the home—The heart or home sense in public institutions—The social cell organization a tool—The home—the only orderly educational foundation and means of growth for any nation—The intimate understanding of each other in work and play—Man and woman in the home—To serve the State a *duty* as well as a progressive necessity—Men only half the organism—The State needs the completed whole, as does the home—America must be a progressive ideal example for the world—No more virtuous than Germany, France, or England except as we make ourselves so—Freedom the goal only as freedom is given to others—Intensive human cultivation should be the effort—Civilization should be made the great concern of every individual citizen—Beginning in the homePAGE 257

FOURTH CHAPTER

MUNICIPAL HOUSEKEEPING

City housekeeping the result of the standard of the unit housekeeper—The individual home insufficient unless active in municipal housekeeping—The larger businesslike methods are needed for the operation of the modern progressive home—City standards the result of what the people want—Hospitals, reform schools, jails, and charities reduced to a minimum in the efficient city—All these a form of waste—The meaning of streets, sewers, bad housing and sanitation—The public market, recreation and education—Home and city co-operation—The object in a City Beautiful.....PAGE 265

FIFTH CHAPTER

THE ORGANIZATION OF THE CONSUMER

The increasing importance of the home-maker as Consumer—She spends 90% of all that is spent for food, shelter, and clothing—The necessity of acting together as consumers—Organization of a Board of Buyers to co-operate with the local Board of Trade—The Housewives' League—The consumer, distributor and producer must come together in reducing the cost of living—The psychology of buying—The women to blame—Too slow in organization—

CONTENTS

Ignorance in food standards—Waste in the manufacture of textiles—Comparative strength and wearing quality—The rented home—The standards of shops	PAGE 269
--	----------

SIXTH CHAPTER

HEAT, LIGHT, AIR, WATER

Sunlight and the efficient life—Artificial light in relation to cost and eye-sight—The eye and its use—Beauty in illumination—Public Stations for heat supply—The Thermostat—The most efficient house systems of heating—Required moisture—The over-heated house—Unpolluted air—The smoke and dust nuisance—Their cost and danger to health—Air and the perfect man—Public water supply—Its effect upon the home operations—The value of baths, public and privatePAGE 274

SEVENTH CHAPTER

EXTERMINATION OF THE FLY AND MOSQUITO

(Used as a basis of Sanitation)

Extermination of the fly and mosquito a hygienic necessity—Lessons from Panama—The habits of mosquitoes—Their local breeding places—The Board of Health and the public demand—No necessity for mosquitoes anywhere—Their effect upon children and animals, and upon outdoor life generally—These things a home menace with no excuse for being except ignorance—Cost of elimination slight—Co-operation and education essential.....PAGE 279

EIGHTH CHAPTER

A HOME MUNICIPAL LABORATORY

There should be a testing place for foods, and household equipment, that the honest efficient business man may be encouraged to higher standards, and the dishonest fake not allowed to be a public menace—Education should not stop at the High School—There should be a consultation place for grown-ups in how to spend, and how to live, for health and bank protection—Something like the Experiment Station on a larger scale should be a part of every municipality, with as little red tape as possible and as much reliable information—Women should control such a laboratory...PAGE 283

CONTENTS

NINTH CHAPTER

MORAL STANDARDS

Public and private moral standards—An accepted policy at the Station—The efficiency method the result of practical working morality—Housework and its moral—The morality of hospitality and sociability—Children and the new moral policy—Moral education and moral practice—The Square Deal of Efficiency..PAGE 287

TENTH CHAPTER

LOVE AND HOME

Love and Common Sense—Love and Personality—The power to love found in everyone—Systematic training of love nature—The development of personal interest—Love the greatest motive power in the world—Universal passion for expression of self—The State and Efficiency in vocation—The discipline of the unpleasant—Insight and understanding—Love and the home—Housework and personal temperament—Love for a great Cause—Love Moods—The Maternal, or feminine emotion in public life.....PAGE 293

ELEVENTH CHAPTER

HOUSEWORK AND DEMOCRACY

The home the miniature world—The new democracy—The value of work—The lower task—The higher tasks—The middle tasks—The Scientific task—The relation of home-makers—Of housekeepers—Of house workers—Productivity—The efficient and progressive democracy—Housework and the new progressive idealismPAGE 298

FOREWORDS

PHILADELPHIA.

About one hundred years ago began the movement which transferred machinery from the home to the factory. Up to that time practically all spinning, weaving, garment making and a large part of all the world's manufacturing was done in the workman's home; and the wife and daughters (when they were not engaged in the drudgery of housework) spent the greater part of their time at the spinning wheel, the loom, or in needlework.

The transfer of machinery from the home to the factory marked an epoch in the progress of women. It shortened the hours of labor and gave them at least a small opportunity for reading, study and social enjoyment.

Little did they dream, however, that a similar blessing was to be conferred upon their great-granddaughters through the return of machinery to the household.

The work of Mrs. Pattison marks the beginning of this era in women's progress. The hours of labor are again to be shortened; and, strangely enough, her advancement this time will be due to the newer and higher application of the primitive tool.

Now, however, it comes as her servant, while in the old days it was her master.

Already the efficiency movement has begun to lighten the burden of a considerable portion of our activities.

Mrs. Pattison's work, however, extends this movement to by far the largest field which has yet been touched.

In her book she has shown us that through the introduction of labor-saving machinery into the home it is possible to diminish household work by one-half, and conserve one's self in the effort. And when we realize that in 90 per cent. of the families of this country the mother and daughters are doing all of their work without the aid of a servant, we begin to appreciate what a blessing Mrs. Pattison is conferring upon women through

FOREWORDS

presenting the results of her investigations and her experiments.

Bringing these experiments to a successful issue has called for unusual qualities.

Patience, perseverance and mechanical judgment of a high order are required to install and try out all sorts of apparatus in a house; and to finally select the best appliance for each purpose.

Only by using and discarding machine after machine is it possible to find the one best suited to perform each function; and this selection involves a large expenditure of money.

Plenty of people could be found who would be willing to spend their money freely in this cause. Few women, however, with ample means to employ servants would, for the sake of their poorer sisters and society, choose to do all of their own housework through a term of years and spend in experiments money which might have been used in increasing their personal comfort.

We are accustomed to associate the use of machinery with the matter-of-fact side of life. As eminent an authority as Ruskin has taught us that its presence acts as a blight to all of our artistic instincts.

It may, therefore, be a question in the minds of many whether its daily use might not tend to diminish the interest of the wife in the æsthetic side of her surroundings; cause her to neglect her personal appearance and to care less for the delicate and dainty things of life—the distinctly feminine things that give a home its greatest attraction.

If this were true then the introduction of machinery in the household might indeed prove to be a doubtful blessing.

Mrs. Pattison is a living proof that this fact would seem to be ungrounded. She is a woman with artistic instincts and fine discrimination, and in spite of doing all of her own housework,—experimenting with the whole field of domestic machinery and writing her book, she has found time to select the very choicest from among the various homely styles that have been imposed upon us during the past few years; and through her good taste and originality has brought about her the

FOREWORDS

best of refinement, and has always been well and artistically dressed.

Mrs. Pattison is publishing, so far as I know, the first work in the field of household or domestic engineering; and if this be true, in a smaller way perhaps she is doing a pioneer work similar to that of Leonardo da Vinci in his "Il Codice Atlantico," Newton in his "Principia," and Darwin in his "Origin of Species."

This association of Mrs. Pattison's name with the greatest of the past may cause some of the readers of this book to smile; but I am not sure that this new branch of engineering is not destined to do almost as much for mankind as the work of either of these great men has accomplished.

It is no small achievement to be a pioneer in a movement to lighten the burdens of many millions of people.

And. W. Lytle

FOREWORDS

TEACHERS COLLEGE,
COLUMBIA UNIVERSITY.

The whole modern period in which we live may be summed up in the relations of the home and the machine. The industrial revolution of the eighteenth and nineteenth centuries meant the transfer of industrial processes from the home to the factory so far as the production of goods for an outside market was concerned. Some production for immediate consumption within the family did not, however, yield itself to machine methods but remained within the home. Progress for the home to-day as far as housework is concerned is to be accomplished either by transferring housework outside the home to the machine, or by bringing the machine to the work left within the house. As a matter of fact progress will be ultimately secured along both lines.

All that part of housework which can be transferred outside the house without destroying the home as a center of the personal life of the family group—and that we are seeing concerns the adults as much as the children—is bound in time to be organized in large industrial units. The laundry, for example, may better be done in a sanitary factory, with specialized workers, to be employed for an eight-hour day soon, let us hope. There is an irreducible minimum, however, of work which must stay within the home—the care of the house itself and its furnishings, the immediate preparation of food and the family table, the care of the child,—these things in the nature of the case cannot go outside the home, and the last word in progress is to bring the machine in. There is a wider field of work which as a practical matter will remain within the home, especially within the detached house at least,—the laundering of textiles in part probably, the care of clothing, the domestic food processes as we know them—all these seem likely to remain within the house for some time to come, partly for personal and historical reasons, but even more for economic reasons which make it imperative that the housewife add to family income by productive work at home just as the husband's labor produces

FOREWORDS

money income outside. The wife is needed at home for its personal control; she must add to family income; she can do it only by retaining certain household arts within the home, although gradually other methods of income-producing may open to the married woman. For the present, however, for many household activities progress must come through the adoption of machinery within the home.

What the farther future has for the home, one may not know. But the growing emphasis upon its personal values may lead one to prophesy the ultimate transfer to factories of all housework save that concerned with the care of persons and personal property, with the service of the family table furnished increasingly from outside kitchens, and with the care and direction of child life and the family group.

Now the person who will experiment with the problem of adapting machinery to the economical performance of work within the house is solving one-half our puzzling domestic situation. And the person who develops methods of handling the work of the house transferred to outside industry is solving the other half. In either case it is to domestic engineering, whether small or large, that we must look, and to the anticipated schools of household technology. A degree course leading toward the profession of "domestic engineer" was proposed, indeed, some years ago by one of our schools of technology.

It is just that which our colleges must give us, not a course with some specialization in household science, but schools for the household technician, and engineer, a professional worker who will specialize in the field of household engineering with the same thoroughness, the same intensity, the same singleness of aim as mark the preparation of the marine engineer, the electrical engineer, the chemical engineer, or any of the other specialized engineering professions which have developed for men in the last two generations. It is just at this point that one may find fault with the higher education of women, even in its present specialized form of home economics. It has given us 150 colleges with departments of domestic science, household arts and home economics—all of which are well and good. But no one institution has yet gone to the full limit of the possi-

FOREWORDS

bilities and given us a university school of household engineering for women and for men too. It is this that the next ten years must furnish if the problems of the household are to be intelligently solved. It is because this book points in that direction and emphasizes what seems to me one great need in education for the home that I welcome it so heartily. It is noteworthy too as a significant piece of evidence arising from the women's clubs, an organization whose wise efforts for social betterment have not yet been fully appreciated by the public and whose possibilities have not yet been one-half realized by its own members.

Benjamin R. Andrews

FOREWORDS

NEW YORK.

The home is the place where the parents rear the young. The place of solitary residence may be a lair, or a roost. A man's club may often be a splendid roost, his office may be a splendid lair, but neither are homes; hotels are roosts for man and wife, but they are not homes.

It is woman's instinct to create a home. On the western prairies we could tell as far as we could see whether we were approaching the solitary and degenerate roost of the bachelor, or the incipient home, however elementary and humble, created by the maid, widow, or married woman.

A destructive hostile struggle, whether on playground, on the battle-field, in love or in business, the tearing down of the old that the new might grow, only in turn to be uprooted, has always been man's instinct and delight, so the constructive upbuilding of the chaotic into order and organization has always been woman's instinct.

But above both man and woman there is one law that applies equally to all man's activities and all woman's activities, whether individual or collective, and that therefore applies particularly to the upbuilding of the home.

There are four supreme and universal rules:

- (1) Obtain from each unit, whether worker, material, equipment, or money, a reasonable maximum of result.
- (2) Standardize the cost of maintenance and operation and then attain the standards.
- (3) Use only those units best fitted for the purpose.
- (4) Beware of increasing capital charges by discarding unfit units before they are worn out.

*And when it comes to collective work woman should be far more ready than man to recognize that even as the apple-blossom is still in all its delicacy and beauty, visible in the thin cross section of the ripe apple, so also all sound human organiza-

FOREWORDS

tion is but the fruiting of the bud that we find in the organization of the human body.

Every great principle is plainly revealed. Omit one and any human organization is weakened, add any principle, not in the body, and we are overloading the runner in the race.

The body reveals the principles:

- (1) Of permanent and oneness of will, divided into the conscious and the subconscious.
- (2) Of staff and line, the staff of maintenance and repair, the heart, the lungs, the digestive organs, the staff of counsel and warning, the five senses; the muscular line, the hands and feet, the mouth, that execute.
- (3) The staff of maintenance works continuously long hours at low pressure, at least half the time resting and needs assistance from the will, but few directions. The workers in this staff should develop great strength, not strenuousness. We should breathe deeply, the heart beat should be strong, the digestion powerful.
- (4) The staff of counsel never pays attention to the common place, it reports instantly to the conscious will whatever is exceptional, the glaring light or the great darkness, the sudden noise or the oppressive stillness, the pleasant or the horrid taste or smell.
- (5) The line workers must be strenuous. Not continuous workers like the workers in the maintenance staff, not alert sentinels like the workers in the counseling staff, but intensive workers when work is to be done.
- (6) Finally in the human organization as in the human body, every worker is peculiarly and exclusively fitted for its own duties. The hands with their own brain matter in the finger tips may be competent in a hundred directions, but they never con-

FOREWORDS

sider themselves qualified to take the place of feet and of mouth, of heart and of lungs, of eyes and of ears.

Using the fundamental of organization, applying under a few easily grasped headings all the experiences of the past and present—

Inherited and progressive morality, =

Inherited and progressive knowledge, =

Inherited and progressive accumulation of wealth.

Using the four business rules as to the control of each unit, each reader will be prepared to apply the wealth of knowledge, suggestions, and instructions contained in this modern scientific work in the home.

The one great gift each has is the number of hours between birth and death. What shall fill into those hours? One-third are obliterated in sleep, another third in work, is the remaining third frittered away? Or by the counsel which this book gives shall twice the effective results be obtained from the eight hours of work, shall incalculably more be obtained from the eight hours now wasted by the ten thousand, only utilized by the ten who lead the world; eight hours even if taken in fractions of a minute as the lungs take their rest?

Harrington Emerson

FOREWORDS

BOSTON.

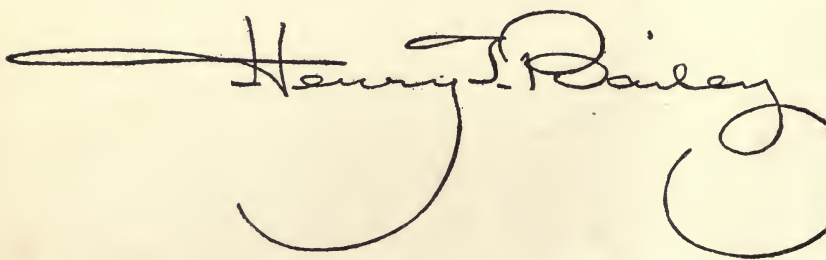
The ultimate aim of the World-soul seems to be, according to Emerson, "*Homes of virtue, sense, and taste.*" The progress of thought in our country seems recorded in that single line.

Homes of virtue was certainly the ideal of Pilgrim and Puritan. Stalwart and incorruptible men and women came from those early homes, where "sense" in sanitation and matters of convenience and comfort, at least, was rare, and where "taste" was dormant.

Homes of sense was the ideal of the nineteenth century. Adequate water supply, a heating system, bath rooms, ventilation, a sanitary and well-equipped kitchen, and labor-saving devices of all kinds, came in to make the typical home in the United States more enjoyable, from the merely physical point of view, than the homes of the Kings and Queens of bygone years.

Homes of taste is the ideal of the twentieth century. And taste is coming to be interpreted in the broadest possible sense, the sense in which the Greek understood it, "Nothing too much," plus the sense in which the Christian understands it, "everything done decently and in order."

Ultimately virtue, sense, and taste, in our homes, will be held in just balance. To hasten that day is the aim of this book, a pioneer in its field,—a field that has its center wherever a father, a mother, and a child live together. The home is the very heart of civilization. Out of that heart are the issues of life.

A large, elegant handwritten signature in dark ink, reading "Henry T. Bailey". The signature features a long horizontal flourish on the left and a large, sweeping loop on the right.

PART I
THE PRACTICAL HOME

"But what idea predominates in our houses? Thrift first, then convenience and pleasure. Take off all the roofs, from street to street, and we shall seldom find the temple of any higher god than Prudence. The progress of domestic living has been in cleanliness, in ventilation, in health, in decorum, in countless means and arts of comfort, in the concentration of all the utilities of every clime in each house. They are arranged for low benefits. The houses of the rich are confectioners' shops where we get sweetmeats and wine: the houses of the poor are imitations of these to the extent of their ability. With these ends housekeeping is not beautiful; it cheers and raises neither the husband, the wife, nor the child, neither the host nor the guest: it oppresses women."—EMERSON.

CHAPTER I

WHAT IS A HOME?

"The Heart of Home will burn forever, for Nature feeds the fire"

One of the most important contributions of Scientific Management to the Industrial world—beside the practical plan for the co-operation of capital and labor,—is its *insistence* that the all-essential element of every endeavor is the Ideal, or object of such activity. This fundamental purpose it declares should be clearly understood and constantly in the minds of *all* who share in the effort of production. In other words: Have a standard of excellence before beginning work, a positive direction in which all interest tends. This does not mean the conclusion will be merely the cut and dried result of a pattern, at the expense of the growing imagination of the workman, but it does mean that certain principles pertaining to the thing in hand, must be thoroughly comprehended; the effect or result desired definitely imaged, and the process carefully studied in every detail. For instance, let us take two ways of making a dress. The one, where the work is all mechanical, with no particular understanding as to the relation of the seams and "lines" to the human form in general, and none to the one in particular for whom the garment is intended. The work proceeds in parts, probably from pattern suggestions, that even if perfect in themselves, fail in developing either the best talent of the individual worker, or in bringing out the personal charms of the wearer, because of there being no clear perception of the unity of those parts, in relation to the object for which they are intended, or any developed sense of the highest expression of which they are capable. The other way is to consider well at the start, the composition of dress in general, its significance, why certain colors, textures, and designs suggest certain people, the occasions and the personality for which the particular dress is

PRINCIPLES OF DOMESTIC ENGINEERING

desired, and the utmost that can be done with the material at hand. As the work proceeds there will be constant improvement upon the original thought, and the dress and the worker will *grow* under the operation. The difference being that in the latter, all the study possible will be put upon the idea, or object of the dress, before it is begun; its relation to every phase of use for which it is intended, and the practice in the kind of technique needed to perfect each part that they may properly fit together to produce the one "Creation" best adapted to the person and the occasion for which the garment is designed. This method requires more thought and headwork, but there is less waste and fewer failures, and beside it is a developing process for everyone engaged in carrying out the plan.

If we would follow this principle of Scientific Management in our study of home-making, we must ask ourselves at the outset—What is a Home? And while realizing the difficulty of trying to put into words the real and spiritual thing for which the home stands, we must do our utmost to define its meaning and purpose, in order to have a common understanding of the object for which we are all striving, and a particular sense of each one's personal problem in the field. Therefore, in applying Scientific Management to the subject, we must commence by trying to determine just what is the nature and aim of a home. We know it is not necessarily a house, for there are people who constantly prove the truth of the saying: "Home is where my shoes are." Again, it is not always necessary to think of it as a place, for really home is a condition, or state of feeling. One feels at home, or not at home, according to one's surroundings. It is therefore something more than any house, or fixed abiding place could suggest. In short, if its meaning had to be put into three words, would they not be—Home is Atmosphere? Or a longer and more workable definition for our purpose might be, that a home is the constant production of an atmosphere, or state of organized existence for the purpose of providing proper shelter, comfort, nourishment, and encouragement for the development of each individual member. A re-creation center, fertilized by the heart and mind of all within, and ever pregnant with life's

WHAT IS A HOME?

best joys. This would not only give us a common standard of production, but a general direction toward which effort and organization should tend, and a definite basis upon which to estimate the results in a larger life and more wholesome happiness for everyone concerned.

A home is not only a shelter from cold and wind and rain, but from the world's outside hostilities, fears, doubts, and divisions. It offers peace and rest to the returning worker, a cosy chair, a hearth, and a feeling that all is well because this cherished spot exists, wherein retirement is possible and refreshment at hand. 'Tis,

"Love makes home a gracious court,
There, let the world's rude hasty ways
Be fashioned to a loftier port."

Its nourishment is more than meat, for the mind and soul of man must feed, and a home that is not a place where the soul restores itself, and the heart finds new aspiration, is something less than the name implies. How often do we "perish the thought" of one of the members of the family, rather than "nourish" it to better being? Discouragement has killed more of our good people than war, pestilence, and famine. The very few who have fought and won the battle through applied discouragement, would probably have reached earlier and greater heights if inspired by the right sort of healthy and definite encouragement. It might almost be well to lay it down as a moral rule in every family—Discourage one another *not by word*, or look, but rather encourage ever to a better way.

With this meaning of home in mind, it should be clearly the business of each member of the household to help to produce the most constructive and inspiring atmosphere possible. Each home should exist around an idea standing as a vitalizing influence for self-expression, not only of each member of the family in each effort of the day, but of the family as a unit, and its individual and encouraging relation to the community. The real home would make of the town an environment of shelter, comfort, nourishment, and encouragement, but that blessed

PRINCIPLES OF DOMESTIC ENGINEERING

stage of society has not yet been reached where more than a few people can live intimately and harmoniously for any length of time under the same roof, and so we turn to the family unit in order to mass the domestic forces and demonstrate the highest order of human relationship in the State.

We believe no more advanced scheme of civilization has been conceived, than the small group of father, mother, and child, or children, and this it is that makes the ideal home, but it should be a home of the family, for the family, and by the family, and not either *made* by the mother, or *ordered* by the father, but rather, a co-operative enterprise in which the importance of the individual is supreme. Herein is the marked difference between the private home and the public institution. The former gives freedom to the individual and the motive; the latter is opposed to individualism, giving authority to a pledge, or order. Personal freedom is one of the greatest gifts of home life, and this cannot rightly be realized unless each member of the household feels a responsibility to take an active and constructive part in the psychic, as well as the physical creation of that home from day to day. Even in the small and model group, we find it no easy task to make a unit of the usual variety of tastes, talents, and temperaments therein, so that each is allowed free and wise development after its kind; how much more difficult it then becomes to put together in any advancing method of home living, a large and heterogeneous mass of human beings. Any such plan must straightway lose its *home* sense and the great values that are the result of the right sort of private and domestic life, and become a public association, useful in its way, but utterly lacking in those elements of the highest order that are found only in the living, sympathetic, and helpful companionship of the few who are living, working, and hoping in what might be called a close corporation of home-making. Were it not for the great values that accrue only from the monogamic order of relationship that are too wonderful and spiritual to even try to list here, the making of separate homes would be a most foolish business enterprise,—for, from a money or ease of operation standpoint, it proves itself an extravagance at every turn. We might better live in

WHAT IS A HOME?

hotels, or blocks, with one source of supply, one management, one method, but human nature and life itself is so vastly more important than any mere money consideration, that we, fortunately, in this age of the dollar standard, instinctively cling to the way the Creator seems to have determined man should live, that he may be best prepared to move on to greater heights of existence. The home means to most people a happier kind of living than has so far been proved possible by any larger combination. The private, individual, and congenial home without doubt, develops not only the highest kind of human being in civilization, but the most real and permanent happiness and prosperity. It is therefore, in truth, the cornerstone and foundation of the nation, the cradle of the citizen, and the bulwark and stability of society, and should be the dearest place in the world for the man and woman together, and the best place for each alone; the choicest spot for the children to assemble, and the magnet they carry abroad; the most loved corner of creation in which each may find his own, and where all feel at One with Life. But how often the practical living conditions are anything but ideal for such united and enlightened effort, the trouble showing itself generally in the attitude and motive of the individual, rather than in any fixed and determined obstacles.

To be sure there are serious and distracting problems to meet. Death, sickness, poverty, discord, and ignorance are facts knocking at the door of most of us, and yet these and like tragedies may be overcome by health, sympathetic understanding, and a working knowledge. All of which are to be had for right asking.

Perhaps the two really serious problems of the practical home are centered in the complexity and luxury of modern conventions, and the difficulties involved in and about the domestic labor problem. The first is a matter of external demands, and may be solved through individual choice and independence. The last is a bugaboo that has loomed up too conspicuously in the foreground of home values, for in the balance of truth, the home and its spiritual content rise far aloft of dependence and routine, and the servant, so called, becomes a mere accessory, a

PRINCIPLES OF DOMESTIC ENGINEERING

part of the complexity, a factor of the times. Not a sympathetic, organic, intelligent and essential element of the recreation center, from the beginning to the end,—an enduring virtue,—but, rather a hindering check upon present potentialities, a misguided factor, and an unorganized unit, making for much of the discomfort and nervous tension under which many a home is operated. For the servant who has in her power the every detail of a house, is commander over the family atmosphere as well.

Can a people, then, arriving at this realization and conviction, allow anything so trivial, so temporary, so partial, as that thing we call "the Servant problem" to thus poise itself in the foreground as to dissipate our thought from the most vital issues and needs of home life, and thereby disintegrate the most sacred and useful institution of progress that God has revealed to human heart and human understanding?

No, we say—a hundred times no; for there is a practical answer. It merely needs intelligent and general application, for which it becomes the Cause and duty of every thinking man and woman to patiently study the situation that confronts us in present domestic life, and to do the utmost to build up an effective "Efficiency System" that will not only be a solution for the servant problem, so called, but a method of deliberate and scientific action for the creation of the kind of atmosphere that will best conserve the Home and all that it means.

CHAPTER II

GENERAL SURVEY OF THE HOME

"The man is the measure of his home"

The homes of the world may be divided into three general classes. Those made solely with an attitude of hard and sheer necessity, the don't-care kind, just places in which to sleep and eat, where the poorest and most unholy atmosphere abides, and where life and its consciousness rises no higher than mere animal existence of the lower sort. The get-and-devour-what-you-can standard, which class in truth is not necessarily the hovel, or poor man's hut, but extends on up through many higher priced mansions and incomes. There are those again including a very large class of homes made by the instinctive home-maker: the feminine and natural desire to have a nest of one's own, but too often without the bird's knowledge of just how to proceed, the result being that there is frequently an air of confusion, bad management, and disproportion generally, where the longing of the very makers themselves to get away from it all, is an everyday happening, and the belief that there is any better way is sadly lacking.

The third class, while acknowledging the necessity of a place to eat and sleep, and having the instinct to try to make that place a suitable one, is a home founded upon the understanding of a higher meaning in it all, and stands ready to improve upon itself by any measures that seem practical. This last is the class of home to which this book is directed. The Class for which the Experiment Station in Colonia was founded. The Clás in which the hope of the present rests and the salvation of the future is assured. Not necessarily a moneyed class, but one in which proper training, culture, and a broad-minded attitude make higher perception possible and intelligent effort interesting. Such a home may have the very minimum to spend, but it is getting somewhere with each day. It is neither nar-

GENERAL SURVEY OF THE HOME

row, nor trivial. Surveying the subject in this way a very close relationship is clearly apparent between all homes, for it is but a step between the must be, the would be, and the want to be, home. A step that has been perhaps hard to take because of our traditional feeling that the last word has been said in home-making, and that after all, housework must rest on the drudgery and overwork of somebody. On the Servants, if one is fortunate enough to have any. If not, on Mother, if she be able, or upon the most willing one of the family. From this point of view there has been little incentive to perform any more domestic labor than was forced by necessity. Science, art, education, and business took themselves off to more public and propitious fields, and the home was left to the women and the servants. But as man cannot make a complete success of public life without the help of woman, so woman fails even in home-making without the help of man and all that he represents. It seemed all very well as long as he provided her with plenty of slaves to carry out her wishes, and economic conditions demanded that she keep herself in the knowledge of how to perform all the household tasks, for no near source of supply was hers, and very often the closest neighbor was fully a mile away, but when the presence of such necessity was lessened, the subject of housework became largely the duty and obligation of the servants, who naturally were not of the educated classes and had no realization of the scientific, or professional possibilities of their occupation. Hence, there was not only little advance made in the home arts compared with those outside the home, but the world began to hypnotize itself to the belief that education, culture, and refinement generally, could only be had by ridding one's self of the performance of anything that was declared to be in the nature of menial labor. "The higher life" must necessarily be found only in those things that were above subjects akin to housework. As one woman authoress declared significantly: "I do all my work, but I never think of what I am doing. I always have my mind on higher things."

All this is the inevitable result of not only the division of labor in society and the isolation of related subjects, but the separation of the sexes. In the beginning, men and women

GENERAL SURVEY OF THE HOME

worked side by side, accomplished each task to the best of their united ability, and used every means known to improve upon their first crude efforts. In our earliest records of primitive life, man with his weapon, and woman carrying the child on her back, are found working together, with no division of labor save that while she is tearing apart and distributing the meat, he is watching and protecting the group from wild beasts. They both felled the trees, cut the stone, brought the food, and guarded the family. With the introduction of fire, there came a change. Somebody had to watch the flame, and so it became the all-important object of the woman's life to see to it that the spark was never extinguished. This then was the chief cause of her indoor and isolated life, and not as is often supposed, the nursing of the child, for even from the earliest age there were various contrivances made whereby she could wander abroad, work in the field, build walls, carry stone, or even hunt, with her baby ingeniously strapped to her person. It was the fire that revolutionized her mode of life and drew her from the side of man and his pursuits, into retirement and separated industries. Man, on the other hand, went his way alone, to conquer and to kill, to explore and fight, to clear the forests, and to study the elements, while woman remained near the home "keeping" the fire and preparing the food. Thus she became the founder and developer of society, religion, and agriculture, and the originator and inventor of nearly all the industrial arts, potter, weaver, skin dresser, linguist, artist, and doctor. The "beast-of-burden" and the "Jack-of-all-trades." His portion it was to bring back the spoils; hers to conserve and elaborate the results of the victory. This has been the inheritance of to-day, the real inheritance of the home.

With the introduction of steam, the second great change took place in the life of the home. The native occupations left the hearth, and the factory world came into being. While this great transition did much to weaken the deftness and ability of the hand, it brought with it time and opportunity for the development of the head, and the results of university training together with a more advanced system of public education, have paved the way for the third great stage in home-making,

PRINCIPLES OF DOMESTIC ENGINEERING

which is the introduction of gas and electricity, and the application of science to every-day needs, and while it is still a matter of fire, or heat, it is no longer essential that the heat be constantly watched. Here, therefore, upon this central fact, beginneth the description of the accomplishments and possibilities of a modern home, standardized upon scientific lines, created from day to day upon art principles, having a high educational value at every point of contact, and proving itself a business proposition by virtue of its ever growing list of assets, and its increasing rate of interest always forthcoming and payable for every effort put into the plan.

Not long since, the Federation of Women's Clubs in New Jersey, determined to discover, if possible, why so many of its members were unable to take active part in the civic, social, and other branches of that association. Even when well qualified to do so, and with apparently a strong desire to help, there would nevertheless come the reply: "But it is impossible, for I have neither strength, energy, nor money to do anything more than my home obliges me now to do. I never know whether I am going to be left without a maid, or not, and my husband does not approve of my becoming involved in anything further." If not just these words, something very like them was the all too frequent response. It roused our curiosity; what was the matter? This, together with the fact that the Home Economics Department was the one *least* popular of all the Committees, made the fact stand forth that the home and its ill-advised conditions was the cause of the inability of women to organize for more efficient club life. What was to be done? Clearly it was determined we must find a remedy. To this end several thousand questionnaires were sent to the women throughout the State, in the form of a simple survey, that would best help us in a right way to proceed. Although it is not possible to report in detail the many and interesting returns from these questionnaires, the very large majority were from women who seemed to have more or less sense of the importance of doing something to solve the home and servant problem, but very little hope or faith that any practical remedy or solution could be found for a condition or a class of people,

GENERAL SURVEY OF THE HOME

the status of which they conceived to be not only indispensable to the survival of the family and the race, but an economic necessity in society, and sentimentally futile to try to change. That condition was embodied in the three brief, but generally accepted statements:

1st. "Woman's place is in the home."

2d. "Woman's work is never done."

3d. "Housework is drudgery."

We will agree to the first, provided we be allowed to use our sense of vision from the latest device and invention of man,—the airship—and declare from a height that the Earth is our home. The answers to the other two, is the reason of this book, wherein we hope to show that even if one's work is never done, it may with proper appreciation and encouragement become one's play, one's profit, and one's choice, and as to drudgery, that conception merely exists from ignorance as to point of view, and is not a necessary reality.

As typical of the many hundred replies received by the Station at the beginning of its work, the following sample is given illustrating the very large class of hopeless, patient, conscientious women who, because they love their husbands and children, are striving to do their "duty," even though it be on a mistaken basis that housekeeping is home-making.

Twelve of the questions were directed more or less toward the personal attitude, twelve toward practical methods, and eight toward those things largely affected by custom and the traditions of society, but all were for the purpose of finding out where the woman actually stood in relation to her own domain, and from the result of these findings we would proceed to systematically search the scientific, the commercial, and the art world for such means of help and enlightenment as could be made to serve domestic life.

The following questionnaire, dated June 1, 1911, was from a good club member in one of our smaller cities:

What is your most serious housekeeping problem?

Ans. How to meet expenses.

PRINCIPLES OF DOMESTIC ENGINEERING

On what basis have you built best results, ideal and practical?

Ans. Self-sacrifice and strict economy.

What do you consider the most important problem to be solved in the home?

Ans. How to accomplish all that is expected of one.

Toward what end does your greatest effort tend? For what are you living?

Ans. To do my best for my husband and children. To make them happy.

What is the greatest thing you have discovered in relation to home management?

Ans. To get up early. Have the children do their part, and be systematic in the routine of the work.

What do you believe the Housekeeping Station should prove through its labors to the club women of the State?

Ans. It should help solve the servant problem, and show how to cut down the cost of living.

What mode of living is the most economical?

Ans. I don't know, but think that simple country house with the least help possible.

What is your greatest waste?

Ans. There is no waste in my home, except perhaps a little bit of gas.

What is the most valuable housekeeping device you have and what do you want?

Ans. Gas stove. Want vacuum cleaner.

What has been the chief hindrance in your housekeeping?

Ans. Lack of proper service and lack of health.

Can you estimate for us the profit of satisfaction in your home for the amount of substance put in?

Ans. This is a question I often put to myself.

What complaint do you hear oftenest from other housekeepers?

Ans. The servant problem.

How many hours a day do you devote to your house?

Ans. It seems as if I gave it all my time.

What are the most nourishing foods taking the least time to prepare?

GENERAL SURVEY OF THE HOME

Ans. Milk and cheese, eggs, fish, and beefsteak.

What utensils are best for cooking, and why?

Ans. Enamel, because easiest kept clean.

What is the best method for cleaning windows and paint?

Ans. Soap and warm water and plenty of good rags.

What is the best treatment for grease in sink, etc.?

Ans. Lye put down once a week.

What is your opinion of the servant problem?

Ans. Poor ones should not be paid such high wages, but all should be treated better and taught, and more girls should be encouraged into service.

Best method for cleaning silver, brass, nickel, copper, tin, aluminum, etc.?

Ans. Plenty of good old-fashioned "elbow grease."

Best method for cleaning furniture, books and rugs?

Ans. Vacuum cleaner.

Best method for care of ice-box, stoves and chimneys?

Ans. Clean them all well periodically.

Best method for dish washing?

Ans. Plenty of boiling water, soap, and clean towels.

Best laundry hints? Best stain remover?

Ans. Wash things out as soon as they are soiled. Javelle water.

What are your greatest laundry difficulties?

Ans. To get a good woman who can do the work in less than half the week.

What is the best Kitchen floor you know, and mode of care?

Ans. Linoleum, washed up each day.

What is your idea of the best disposal of garbage?

Ans. Have the garbage man handle it.

Best method of purifying a cellar?

Ans. Whitewashing once a year.

What is your idea of an ideal kitchen?

Ans. Plenty of room and air. "A place for everything and everything in it." The best of fixtures and all in white.

What are the problems of the country kitchen?

Ans. Over-amount of heat, over-amount of work, and carelessness of people tracking in and out and leaving things about.

PRINCIPLES OF DOMESTIC ENGINEERING

What is the easiest way to serve a table?

Ans. Put everything on at once and let people help themselves. It isn't stylish, but it is the only "easy" way.

What is the best method of keeping one's hands in order?

Ans. It can't be done if you do housework.

What part of your home gives the most satisfaction? The greatest dissatisfaction?

Ans. My flower garden.

Ans. The kitchen.

What Department of Housework do you dislike most?

Ans. Dish washing.

Have you any suggestions for the older members of the family?

Ans. Except to make their last years as happy as possible.

What is the keynote of your principle in the raising of children?

Ans. Obedience to parents, and to give them all the education and advantages possible.

Further comment is unnecessary. The present conditions of the average home are embodied in the above, showing plainly the importance of some practical working out of an ideal that will not only be a safety valve for the woman, but a developer for the family and a conservator of the home in its best and most profitable form. Such an ideal we believe to be found in what is known as Scientific Management, which declares Science and Art as the fundamental needs of every thoughtful endeavor. The Scientific way of doing everything, as Frederick Taylor says. The Scientific selection of the workman. The Scientific training of the workman, and perfect co-operation of all parts.

We have defined art as the creation of what ought to be, from what is, and Science as the proper method for this creation. Let us then see the vision of the new home as it appears when we take it in all its parts and translate them to a unit from this basis. But before proceeding to those chapters which deal with the various sides of home-life in practical detail, let us glance at the following questionnaire that was filled out for the

GENERAL SURVEY OF THE HOME

Station in June, 1912, a year after the first one; showing a very different attitude which we find does, and therefore can, exist. The same questions answered by another of the New Jersey Club women:

What is your most serious housekeeping problem?

Ans. The problem of waste, and of being always ready for the unexpected.

On what basis have you built best results, ideal and practical?

Ans. On the basis of highest possible standards.

What do you consider the most important problem to be solved in the home?

Ans. The raising of housework from its present commonplace plane to one of cultural activity.

Toward what end does your greatest effort tend? For what are you living?

Ans. Toward appreciation and realization of Beauty as the highest life.

Ans. Development and accomplishment.

What is the greatest thing you have discovered in relation to home management?

Ans. That it is a matter of psychology and that every big idea of the world is admirably translatable for the home.

What do you believe the Housekeeping Experiment Station should prove through its labors to the club women of the State?

Ans. That better organization, management, and progress of the *home*, is the only salvation for the life of the State.

What mode of living is the most economical?

Ans. That mode of living that gives the highest and best life returns.

Where is your greatest waste?

Ans. Waste of time and human energy.

What is the most valuable housekeeping device you have and what do you want most?

Ans. The Emerson Efficiency System and the automatic electric cooker. Want a perfect, automatic, properly moistened house-heating device, with smoke and gas consumer attachment, and *an efficient mind*.

PRINCIPLES OF DOMESTIC ENGINEERING

What has been the chief hindrance in your housekeeping?

Ans. Lack of knowledge, and lack of a right source of knowledge.

Can you estimate for us the profit of satisfaction in your home for the amount of substance put in?

Ans. The profit of satisfaction is wholly spiritual, and no amount of substance put in is too great for such results.

What complaint do you hear oftenest from other housekeepers?

Ans. Servant inefficiency.

How many hours a day do you devote to your house?

Ans. Average about six hours.

What are the most nourishing foods taking the least time to prepare?

Ans. Those foods as near the natural state, as are palatable and digestible.

What utensils are best for cooking, and why?

Ans. The lightest, the most readily cleansed, and the most perfectly shaped.

What is the best method in cleaning windows and paint?

Ans. Bon Ami, or Whiting moistened with Alcohol, and a chamois. Gasoline or Turpentine for paint.

What is the best treatment for grease in sink, etc.?

Ans. Keep grease *out*; or Kerosene, or boiling water and wood ashes, or lye.

What is your opinion of the servant problem?

Ans. Elevate housework, standardize home-making, and professionalize houseworkers, and the servant problem will take care of itself.

Best method for cleaning silver, brass, nickel, copper, tin, aluminum, etc.?

Ans. Never let it get dirty, or use the best things known for each, and electricity for buffing.

Best method for cleaning furniture, books, and rugs?

Ans. *Keep* clean, or use crude oil and hot coffee for furniture, and vacuum cleaning.

Best method for care of ice-box, stoves and chimneys?

Ans. Never let get dirty.

GENERAL SURVEY OF THE HOME

Best method for dish washing?

Ans. Electric machine.

Best laundry hints? Best stain remover?

Ans. Use the sun and morning dew as much as possible. Electricity and studied motions. Cold water applied instantly for stains.

What are your greatest laundry difficulties?

Ans. Too many clothes to be washed.

What is the best kitchen floor you know, and mode of care?

Ans. Finest of hard wood, beautifully laid, and merely oiled or waxed.

What is your idea of the best disposal of garbage?

Ans. Incinerate, and make bricks or fertilizer of the waste.

Best method of purifying a cellar?

Ans. No clutter, perfect order, and whitewash occasionally.

What is your idea of an ideal kitchen?

Ans. A design and arrangement for least possible expenditure of effort, in every necessary operation, air from four sides, and an atmosphere of cleanliness, comfort, and beauty.

What are the problems of a country kitchen?

Ans. Old conditions, and ignorance of best methods.

What is the easiest way to serve a table?

Ans. With a "Table Butler" (revolving center), and "Dumb Butler" (a revolving side serving table).

What is the best method of keeping one's hands in order?

Ans. To use them intelligently, and oil them frequently with the finest of oil.

What part of your home gives the most satisfaction? The greatest dissatisfaction?

Ans. The beautiful part. The shabby and worn-out parts.

What part of housework do you dislike most?

Ans. The routine.

Have you any suggestions for the older members of the family?

Ans. That they have their own interests and pursuits aside from those of the young people, and that they live as independent, self-sufficient, active, progressive lives as possible.

PRINCIPLES OF DOMESTIC ENGINEERING

What is the keynote of your principle in the raising of children?

Ans. To cultivate their imaginations, perceptions, their power to do, and their reasoning faculties to *want* to do right. Make them self-reliant and independent.

This, you see, is not only ringing with hope and ambition, but it speaks with authority, in that the writer has already proved, certainly to her own satisfaction, the worth of the Efficiency System, and the truth that it is a solution for the many problems of domestic life. A smoothly running home requires neither an abundance of time, money, nor strength, but is the result of clear determined vision: of proper appreciation of proportion, and of *Knowing How*.

CHAPTER III

THE BUDGET

*"Let us make it all straight,
I hae the means i' my budget"*

"I am not one thing and my expenditure another; that our expenditure and our character are twain, is the vice of society"

Few people with any business sense at all, start out to do things, or have things, without a thought as to expense, but many there are who count cost, not in relation to life and its real needs and values, but to things, and what they think they must have.

It has been said there are few actual necessities for the life of man. That depends upon the man, and the side of him that is being developed. One can subsist on very little actual food, but a man is more than his stomach. Again he can live in the crudest and often the most unclean surroundings, but how does he live? Does he gain in strength of character and refinement, in sympathy, and appreciation? And does he advance in them as rapidly as it is normal that he should? Hunger is the supreme test of need, but it should affect the entire man, the soul of him, and not merely one of his organs. By all means let us encourage the exercise that will make for good healthy appetite, but let us have only what we really utilize and make a part of ourselves. How many of us want half the junk we gather to ourselves in the course of a year? We may think we do at the moment, but it has the same effect upon our environment as overeating and a bad selection of food has upon our bodies. A good clearance sale once a year, is the only cure for a condition that should have been prevented, because the giving away of things is apt to carry to the other fellow the same trouble from which one is ridding one's self.

To study one's actual requirements, to know the greatest need, and to proportion everything in relation to that one mo-

PRINCIPLES OF DOMESTIC ENGINEERING

tive, is the object of the budget. Income and outgo should be guided by something more than mere methods of account, or even any declared schedule of proper division, such as 20 per cent. for rent, 25 per cent. for food, 15 per cent. operating expenses, etc. It is rather, a wise portioning for the proper functioning of a body toward the biggest idea, or goal, of which that body is capable.

For instance: a city is moving along on the old basis of appropriation. Each Department from time to time requiring more and more. The effort being to make suitable allowance for the unrelated elements of the place and to keep up with other towns. This same City adopts the budget plan, relating its parts for one purpose—the welfare of its citizens—and puts before itself certain things to be accomplished. It studies its own individuality. It learns how to improve upon its good points, and bring up its deficiencies, how to best operate for the benefit of all its people, and with the least economic waste. It gathers from other cities such help and suggestions as can be wisely incorporated into its own life and character, and although it uses everything, it imitates nothing. It simply develops itself.

Again, a family of four, with say \$5,000 a year to spend, pay the rent that is asked in the part of the town supposed to be the elite section. Keep three servants, as is the custom of the block, trade with certain stores because of locality, follow the fashion, as far as possible, and do what other people do, of the same set, or class. A sheeplike method, and like sheep they are very apt to go astray, or to get nowhere in particular. Their money comes and goes, they have little idea of where, or how, or if they do keep account, it is only a means of annoyance. It teaches nothing, for there is no higher standard than keeping up and moving on with the crowd.

Another family of four, on the same block, with the same income, are there because it is the best location possible for the development of that particular family. All requirements have been considered, and the decision made upon the principle most important in the selection of a home. Namely, the health and welfare of that particular family life. The rent is offset by a number of real advantages to be found only there. Three serv-

THE BUDGET

ants are not a necessity, from the fact that it is better for the children to become just as efficient and independent as possible, and by adjusting the housework to the ability of one maid, they may enjoy thereby many advantages, such as music, and the theater, or perhaps an automobile. Purchases are made where right quality is assured at the lowest prices, and life is lived for itself regardless of fashion, or custom. Such a family would prosper under the budget plan, for each year there would be a definite object for the financial program, with one leading motive of expense, upon which the whole family agree and to which every other department of spending would be regulated. This method would not only guide the expense ship in one direction by the co-operation of all concerned, but would be a developer and a controlling factor from year to year, helping the individual to decide not only the purpose of his own life, but that of the family of which he is a part. Even if the proposed program were not followed exactly, it would give a starting point and a definite mode of procedure for the year, which, if found good, or otherwise, would properly affect the next year's thought, making the budget from time to time assure a better return on the investment.

The budget system for each member of the family is again of prime importance, as distinguished from an allowance, or a mere cost account, the difference being that instead of *allowing* an item of expense, we recognize the *right* of its existence, and the importance of its function, or the part it plays in the scheme of the whole. Many wives and daughters, "on an allowance," would feel less like weak dependents were they recognized in the budget as performing a function in the family organism, that entitled them in all justice to a part of the family income. This difference in the point of view we find can be brought about by the proper understanding and use of the home budget. If there is any support for the wife and children, they are entitled to it, not simply *allowed* it, entitled to it for three reasons. First, because of their position as wife and children. Second, because "money of one's own" makes for strength of character, self-respect, and efficiency. And Third, by proving their ability to properly value and handle it.

PRINCIPLES OF DOMESTIC ENGINEERING

As we only learn by doing, perhaps an illustration of how a young girl connected with the Experiment Station, learned to value the use of a budget, would best explain its meaning to the individual. She had "been allowed" so much a month, with the result that she never had enough and was seldom satisfied with her investments. The first of the month she would give too little consideration to cost, and often be disappointed in the real value of an article purchased, but the last of each month she either went without, or bought what she didn't like. She accumulated what she called a lot of trash, hard to utilize because she had followed the wrong kind of fashion, and had come to the conclusion that she neither dressed as well as she should, nor did the things she might, even on her modest allowance. How should she change things? She first made a little survey of all her needs, studied each part of her dress and her expenditures, beginning with shoes. She had been in the habit of buying her shoes in all sorts of places for all sorts of modest prices, depending upon the appearance only, and the fashion as to shape and color, with the result that she was forever having shoes that were not comfortable, discarding them when only half worn, and because of shifting her foot from one shape to another in such promiscuous fashion she had to add to her footwear cost,—which in a year was out of all proportion to her allowance,—a fairly good-sized chiropodist's bill, and the consciousness that not only were her feet never properly shod, but they were also being injured. She therefore made a study of her foot and its requirements, the way she used it, and its correct dressing in relation to her feelings and her mode of life. To her surprise she found she could pay an expert shoemaker his price for perfectly fitting and suitable shoes, and still save money in the course of a year, beside feeling her feet beautifully and comfortably dressed all the time, with no waste in half-worn footgear. She sacrificed something in variety, perhaps, but what is the use of variety if none of it is really good. This same process she applied to her hats, and instead of having several half-put-together head coverings, she crowned herself with one charming and suitable bonnet for the season, and felt her head a constant joy in the air. Her Winter suit

THE BUDGET

she found could not be worn out if she lived in it every day on an average of six hours for four months ; hence, it was clearly bad management to have more than one at a time. And as the same held good with other gowns, she found with the right care in selection, she needed for the year fewer garments of every sort, to really feel and appear better dressed than under the old method. What was the difference? Simply that instead of a haphazard, hit-or-miss habit of a day, she made a yearly program, from a year's outlook, first determining her purpose and object in spending money, and then by fitting together each part through a close study of *values*. She makes the science of purchasing teach her how to live.

The principle of the budget is the same whether applied to a city, a home, or an individual. The money available is of prime importance, but to make it produce to its utmost, a definite program is essential. The purpose in spending is clearly to receive values in proportion to the amount invested. These values should be given serious study, for they not only affect tremendously every human being included within the program, but have besides a very positive reflex action upon the life and condition of trade itself, establishing standards that affect the progress and the principle of success and morality in all public and private business.

CHAPTER IV

THE ELIMINATION OF THE SERVANT CLASS

*"They who would be free—
themselves must strike the blow"*

*"The reform that applies itself to the household . . . must break up
caste, and put domestic service on another foundation"*

Perhaps the most unique feature of the Experiment Station is that it has stood from the beginning for the elimination of the Servant Class as a necessary element of our industrial and social domestic order. In fact, it would seem that there is no stronger factor holding the home from its higher realization than the one involved in the so-called "Servant problem" of the day, irrespective of the fact that the individual servant is not to blame any more than the individual mistress. The fault lies rather in the social order of things that has given us in this country and this age a relic and remnant of ancient slavery customs. All because we have believed that certain occupations were in themselves menial, when in reality it is the manner of doing only that may be menial.

As only 8 per cent. of the homes of the country employ servants regularly, according to latest statistics it would be a negligible social situation were it not for the fact that just here lies the psychology of the trouble. It is what the few of the so-called "upper class" do, that is consciously and unconsciously made the standard throughout society. The ways of the rich may seem at times, vulgar and to be condemned, but in most cases the lesser rich would do likewise if they could, and the really poor would gladly imitate "their masters" if given a chance. And so this little 8 per cent. of the people set the pace, as it were, in the manner of life. Although in reality the money rich are the most dissatisfied and unhappy set of social beings, their standards of the externals of life filter down through the stratas of the other 90 per cent. just as surely

THE ELIMINATION OF THE SERVANT CLASS

as water penetrates the Earth. This it is that gives that tremendous responsibility that should be felt, when money gives opportunity.

The long fight in civilization has been against what is known as privilege and its necessary accompaniment, slavery. For "my lord" to say "Do this" and "Do that," "Because I command you."—"Down in the dirt before me! for 'tis my will," was crudely imagined to be a sign of real power. Thus, "Serve me well, dog, or you die," is the attitude that has been the inheritance of the condition of the present servant problem. A problem with which we are all more or less familiar, but let us analyze it for a moment with reference to its effect upon the proper progress of the home, and the best interests of the Servant Class itself.

In the first place: the demand for house-servants is very much greater than the supply, which always lowers the standard of industry, from the fact that any labor, or material, is used and thought to be better than none. The last labor statistics in New York City showed a demand in that vicinity for 100,000 more house-workers than the supply. This also makes for a shifting from place to place in the hope of variety, or betterment, giving us the appalling fact that of the domestic workers placed by the combined Intelligence Offices of New York City, the average length of time for them to remain in one place is two weeks. Think what this moving army of misfits must mean to the peace and serenity of the home circle, as well as to the individual stability and character of the Servant.

Secondly, the higher standards of education have placed most of the home requirements on a scientific basis. Everywhere the housekeeper and home-maker is impressed with the necessity of broader knowledge in the handling of the different household departments. The very health and body of the family depends to a large degree upon the understanding of the chemistry of food and nutrition, the intelligent practice of sanitation and hygiene, the comprehension of bacteriology, etc., and while the housekeeper is thus impressed as manager, the maid in the kitchen is of a type in most cases, that not only has little realization of these things, but is possessed of a quality of judg-

XD

PRINCIPLES OF DOMESTIC ENGINEERING

ment at variance with such facts. "Sure, that's all right. That's good enough," is declared with whole-hearted honesty to many a most unright act, and why not? Why should the girl be expected to do otherwise? She is doing for others the best she knows, and often as well, or better, than for herself. The wonder is, that in so many cases she does do better than she knows, but it gives us just at this point between the disagreeing conviction of the mistress and maid, a house divided against itself, which the Scriptures of old said could not endure.

Thirdly: we cannot gainsay the fact that the world, or public life, is the result of home conditions and home impressions, and that of all branches of industry, the one operating under the most primitive method and upon the most unbusinesslike of systems, is that of the average private home. The chaotic results of this up-side-down state of affairs is not to be calculated in society. Our boys and girls go forth unprepared and inefficient in the competition of life, because of the lack of right motive, of clearly defined ideals and standards, and of ability to do with their own hands what they think they know with their heads. Money-making has been the great motive of industry, and money-making with as little work as possible, but what use is there in money if it does not make a smoother and happier-running world?

The struggle for existence, or "competition" has forced rapid strides in the advancement of public affairs, which, however, have neither been balanced, supplemented, nor supported by proper progress in the home, and when the cause of this dangerously unrelated condition is searched for, behold, it lies largely at the door of the estimate of society as to the Servant Class. The very class who are involved in the heart of the situation, who come closer to one's real and intimate standards of life than many a friend, or relative, who are in a position to learn the best and most we have to teach, who administer to our first and really intimate needs and come in contact with us at every stage of life, is the class that Society has relegated to the lowest plane of human beings claiming respectability. Housework and house-workers are classified at the very bottom of industrial occupations, the evolution of the large and formative

THE ELIMINATION OF THE SERVANT CLASS

social order thus resting upon this false and inferior concept. Is it any wonder that in so many cases girls prefer any sort of factory, shop, or even laundry, or restaurant work that is in the nature of business, and will take them from out the condemned class of house-servants, to give that feeling of self-respect which can only result from a certain sense of freedom in one's environment? Is it again any wonder that they have created a kind of aristocracy among themselves which establishes a waitress, laundress, or parlor-maid on a much higher plane than a general housework girl, and thereby made the specialist far outnumber the "maid of all work," forcing into the latter position the girl of fewer and fewer attainments and less and less ability, until about all she is certain of knowing is that she wants \$25 a month with the best of food and lodging added, for her transient willingness to learn the English language and a few of your "ways"? And then we wonder that our daughters do not drift with more interest and enthusiasm toward the unfit Kitchen presided over by such a priestess. The marvel is that they are ever willing to take their dainty habits and persons from the drawing room of music and flowers into such an unrelated atmosphere of commonplaceness. For the sake of the girls of the future, for the sake of the homes that still are, and are to be, for the sake of the men and the results of their labors, for the conservation of society and its ideals, and for the stability of the State and our Standards of Education, the Servant Class, as now existent, must be eliminated. There is no possible future for the advancement of either the so-called servant, or the home, in the present method. That condition we call the "Servant Problem" cannot fail to become more and more serious with each succeeding day. Small as the percentage of servant keepers is found to be in the United States, the basis of the problem is so important that it permeates in its destructive influence every plane of life.

The American people in the interpretation of their ideal of freedom, saw fit to wage a most deadly and effective war against the custom of slavery in this country. The modern domestic servant is not a slave in the old sense of complete ownership, but the evolution is not so very far removed from the status of

PRINCIPLES OF DOMESTIC ENGINEERING

her darker sister. To be sure, the modern "Slavy" gives her consent, but for what? The sale of her entire time, twenty-four hours a day, and seven days in the week, to do the bidding of some "mistress" or "master," who in many cases has even less consideration than if the slave were permanently the property of the house. We may argue that they have their time to sleep and eat, their days "off," their own way in more than is just or healthy, and freedom to leave at any moment they choose, that in reality it is the mistress who is the modern slave in the situation, but in truth it is neither mistress nor maid. It is a social condition that affects both disastrously. A form of industrial contract, medieval in the extreme, whereby a girl is expected to leave her own home and natural surroundings, and live under a foreign and unknown roof, isolated from every interest of her native life, ready to be called upon by night or by day to serve "Me Lady"—told to hurry and get through with one kind of labor in order to be ready for the next, with no standard of operation except the will of the mistress and her traditional habits. Oftentimes with no one to speak to for weeks, and three solitary meals a day taken on a time limit in the midst of confusion and a none too attractive kitchen. You may give to such a girl every evening and every afternoon in the week, if you will, the best of rooms and all the privileges conceivable; still the fact remains that these are but gifts. They are no solution. The servant "contract" calls for her time by the month, and she is practically owned in the situation, told to do this, and do that, and "be in" at ten o'clock. She is of course free to change her mistress, if she will, but to what end? Only to accept the same "contract" with another, and perhaps go through the most distressing and demoralizing Intelligence Office experience on the way. Is it surprising that the servant class furnish the largest percentage of women criminals, prostitutes, and victims of the social evil? Who of us would join their ranks if it were possible to do anything else for a living? None, as the facts show. And although there are splendid, able, and dignified women working, and to be hired, as servants, the fact remains that they are *in* this class—if not of it—where the occupation is believed

THE ELIMINATION OF THE SERVANT CLASS

to be but menial drudgery, and the form of Contract Semi-Slavery. What a life! And how absurdly false its interpretation!

Before the Experiment Station was established to standardize housework, its founders made as close a study of the servant situation as such a confused field of statistics and records upon the subject allowed, and we were impressed with the truth that of the thousands of women studying the science of Home Economics throughout this country, not one could be traced who was employed in domestic service. All were teaching, lecturing, writing, or using such knowledge for their own satisfaction. All well in its way, but how incongruous, that a set of students should fit themselves for a profession, and then not practice it. It would seem no more strange if a class of lawyers, or physicians, were graduated in their subjects merely to talk, teach, or take care of their own persons and property. The answer to this, of course, is the servant's position, and the "contract" under which she operates. No thinking person will accept such a combination, if there be a possible alternative. The really strange part of the problem is that so outgrown a system and method should persist in these days of human enlightenment. Why should we conceive housework to be the lowest of labor? And why continue to believe it necessary to keep house-workers under the same roof with the family where the work is done? One may point to the success of the past, as far as the second proposition is conceived, and prove that our Marys and Mammys made life worth living, and were themselves delightfully contented, but times have changed, and the old member-of-the-family sort of help, is all but extinct. The dear old Mammy, and the best of Mary souls are replaced by a hit-or-miss accident of the moment, who because she is not, and cannot be, a member of the family, is an extraneous and extravagant appendage, costing the budgetary more, far more than is usually recorded, because one is apt to calculate by figures only and not by values. To wages should be added not only food, light, heat, water, breakage, and wear and tear, but the interest on the building space needed to accommodate one or more servants, the extra work that each

PRINCIPLES OF DOMESTIC ENGINEERING

one brings into the house, by virtue of her living there, the decreased efficiency of each as more are added, the harmonious handling of each different temperament, the psychological strain in having the personalities about all the time, the care in catering continuously and in an approved way, and the feeling of responsibility that what is under one's roof is under one's guidance, when that is often one of the grievances of the watched-over one.

We have found at the Station that where one maid costs \$25 a month for wages, she costs \$50 in cash, and nearer \$100 in liability values. The second adds 20 per cent. more for each, and so on in proportion until either the entire vitality of the mistress is needed to "manage" them, or in addition a housekeeper, or overseer, is employed, making a feeling among the family of living either in someone else's house, or of keeping a kind of servants' hotel or boarding house; neither of which adds proper atmosphere to the home life.

And so the Servant *in the house* seems a relic of past traditions that is not only outlived, and impossible to continue under present conditions, but an unhealthy and degenerating Contract for both employer and employee, spreading its malicious influence from the family throughout society, and our entire educational standards; holding back the home in its industrial and psychic progress and having a most discouraging effect upon home-makers, although a problem that really need not distress her over-much, for the servant is eliminating herself rapidly. The "mistress" part is to meet the situation, evolve a better state of affairs from the past and the present, standardize housework on the real and high plane where it belongs, and create a class of professional workers, independent, self-respecting business people, both men and women, for housework positions.

In the Chapters that follow we hope to show from experience at the Experiment Station, that this cannot only readily be done, but to prove by what means, and how it has been accomplished here, as well as the why of its importance.

CHAPTER V

AN AUTO-OPERATIVE HOUSE

"Na' house will rin itself, girl, but luk wha ye can, do!"

It is said that no man is indispensable to an institution, and if at any time it should so appear, both the institution and the man had best beware, for the law of progress is that "Every vessel shall stand on its own bottom"; therefore the man will either be over-burdened by the weight and responsibility of the institution, or perchance by his own egoism, both of which are dangerous human balances to carry. The institution, on the other hand, is weakened materially through any such impression. Ambition, initiative, imagination, and ingenuity are kept at the minimum expression amongst the other members concerned, and the whole edifice runs the risk of toppling over from its own ill-adjustment.

How many thousands of women there are who actually seem to be indispensable to the every-day running of their homes, and who would besides, in numberless cases, ignorantly and voluntarily add to their real obligations, that enlarged sense and habit of what might be called "Mother-dependence," which not only encourages helplessness in the child and in the family as a whole, but shatters the growing strength of the home and its helpful relation to other homes, and proves itself sooner or later deadly and dangerous in its reaction upon the mother, or mistress of the house herself. To be constantly asked: Where is my cap?—Where did you put my slippers, Mother?—How do you want the books arranged?—Do you know who has had the new time-table?—and the many inquiries of like kind that come with each day's routine, simply steals into the vitality of the house-mother, bit by bit, until in due time the summing up of such trivial happenings writes its indelible influence in a kind of nervous exhaustion, that recommends itself in nowise, unless perchance to the few morbid-minded who would be mis-

PRINCIPLES OF DOMESTIC ENGINEERING

erable in order to call forth a sentimental sympathy from those near and dear.

Putting aside this small class of over-feminine and unnatural beings, we find the very large majority of women looking forward with dread to any such possible break-down. At the same time prematurely helping on the catastrophe by not being willing or able to apply the remedy after the need becomes apparent. There is a haunting ghost in the thought of—What if I become helpless next week, or next year?, and worse, far worse is the vision of what will happen to the family? The doctor, or husband possibly, anticipating the result of such mental confusion, advises the lady to take herself off to some quiet resting place for a time. Such advice frequently but adds to her terror, from the fact that she cannot picture how the house could possibly run in her absence, and so she heroically, or more often stupidly, sticks to her post in order to be on hand to continue to carry a burden unnecessarily heavy, and greater than ever should have been allowed to accumulate upon her delicate shoulders. If only she knew someone to take her place for even a short time! But after vainly running over the list of possible substitutes, she comes to the conclusion: “No one would really know how. I could not rest thinking everything was being turned upside down, or neglected. There is nobody who knows either my ways, or the many peculiar demands of this particular house. It would not work, and it would cost me more than the rest is worth. No, I’ll get along in some way, or if I break down, we’ll have to engage a trained nurse, but why am I so helpless in the situation?” Many a fantastic phrase of one age is a visible fact in the next. The one of not so very long ago often sarcastically put to the fastidious: “You should be carried around in a glass case with all the luxuries at hand,” is now practically illustrated on every good road in the land.

“I wish the house would run itself,” is a state yet to be realized, but a real step has been taken to bring this would-be condition about, at the Housekeeping Experiment Station. Our ideal, or ambition being to so ordain the whole, that anyone with a general knowledge of housekeeping, might be able to take charge of the average house, at a moment’s notice. In fact,

AN AUTO-OPERATIVE HOUSE

we arranged our system with the ideal in mind, that not even a word *need* be spoken between the outgoing and the incoming manager; a mere gesture of the hand as to where to find the central desk, or starting point, being sufficient.

If the size of the house warrants, there should be a home-office for the business and clerical work of the establishment. Our plan includes such a room on the Ground Floor, where a desk, a typewriter, a dictaphone, and several files may be found. In the center of the desk is a small card index which tells of the location and uses of the several rooms and closets throughout the house, and a general index of material. All the doors of the house are marked on the outside with small metal numbers near the handle, that they may not be over-conspicuous. The contents of the room and its location is indicated by a card in a small metal rim on the inside of the door, from which one is led to the various lists of articles in their respective departments. For instance; a card in the small box on the desk would indicate "Library—Door 3, First Floor," or "Linen Room—Door 7, Second Floor." If one would look for Books, Periodicals, Playing Cards, Towels, Sheets, etc., they will be found Door No. 3, First Floor, Card on inside of door, or Door No. 7, Second Floor, Card on inside of door, from which cards one will be directed to the particular list of Books, or Periodicals, Playing Cards, Towels, Sheets, etc., desired, and any necessary description of each, such as Sheets for Room No. 6, Sec. 2, Shelf 4, or Towels for Bath Room A, Shelf 3, Sec. 3. The cataloging of the library follows the simplified plan of that used in the Public Library, and in fact was listed by one trained in that subject. That of the other rooms of the house, and in truth the entire system, was worked out by our local club with the idea of its proving a self-showing system to the stranger who would take charge at a moment's notice, and a simple radiating method needing the least possible time in the using and the care of it.

As an illustration, the incoming stranger might suddenly want a spool of white cotton, or a piece of court-plaster. "Spools of thread" would be indexed, Door 8, Second Floor, Inside Card, which card would show "white cotton, Drawer 6,

PRINCIPLES OF DOMESTIC ENGINEERING

Sec. 4." If court-plaster happened to be too insignificant to list in the main list, it would naturally be looked for in the "Medicine Closet," Door 7, Second Floor, Inside Card, from which point it would be listed Shelf 2, Box 3, and upon opening the box if more than court-plaster happened to be part of its contents, a further card on the cover would show its location, and the kind to be found.

Or take the whereabouts of molasses, or sugar, General Index says: "Kitchen, Door 9, First Floor." Inside card, "Molasses, Cupboard 6, Shelf 4, Sec. 1." Sugar, Door B, Inside Card, from which one would see, "Sugar, Shelf 2, Sec. 1."

All this may seem unnecessarily complicated, confusing, and time consuming, but so did the first index and cataloging system seem to the Public Library and the shop. The smaller institutions particularly were loath to fall in line with the adoption of what seemed to them a plan suited only to the larger and more complex situation where great quantities of material were handled and where there were frequent changes among the operators. It took some time to realize its universal application to both the big and the little enterprise, but where now can be found an up-to-date shop, library, business, or public institution, without some such system? No matter how small the start, to succeed they must be on a business basis, which includes all the independence and auto-operation possible. The frequent difficulty has been, however, that the various card-cataloging systems have become so involved that they have not only needed to be carefully studied in the beginning, but each operator has suggested the possibility of still another to do the "checking up," as it were, until the fault of "too much red tape" has discouraged the would-be orderly manager. In our house system we have tried to avoid the possibility of this danger, by keeping in mind what seemed to be the simplest method consistent with the thought of a home running itself.

A colored diagram showing at a glance the very root and design of the index system is at the housekeeper's desk, and any and all information concerning the home, or the family, may be here classified. Each Department is made to branch out, as it were, in the nature of a tree. Each branch in turn direct-

AN AUTO-OPERATIVE HOUSE

ing, or guiding to the twig form of index, until as each separate leaf is individualized and located, so each article in the home is ordered and tagged in its proper place and related to the economic arrangement of the whole.

Such a plan does not, as may at first appear, either delay, or interfere with the process of housework. On the contrary, we have found that while one cannot trace the tree with quite the speed of the squirrel, it nevertheless makes for better time, certainty, directness, and independence than the old kind of order where somebody must carry it all in her head, and show, or direct each inquirer. Such a system also adds an incentive to keep things in order; where even the child realizes he is going to put the whole scheme out of place by neglecting to keep something as it should be kept. He at once feels a sense of responsibility and importance to do the right and orderly thing, particularly if he has taken part in the plan from the beginning. Added to this, it relieves enormously that burdened sense of responsibility which holds so many home-women in the vice of the health-wearing feeling of having to meet the over-numerous, little, wearing, local and unnecessary demands of the hour.

The right sort of home-maker will always feel the real welfare of the home largely dependent upon her, and an obligation to give of her best toward the proper development and atmosphere of what should be the highest spiritual standard possible for the family life, but to believe she must at the same time personally keep track of every duster and button-hook is minimizing her ability to reach greater and more creative heights of usefulness, and maximizing her tendency to deteriorate into a mere domestic drudge.

The periodical house-cleaning spasms which housewives have exhibited from time to time, have been largely prompted by that desire to free one's self from the accumulated confusion and disorder of things. To know that everything is in its proper place gives a restful feeling to most people, but in how many houses is this restful feeling a permanence? Apparently very few, due in great degree to the fact that the family are not constantly "lined up," as it were, to a business-like

PRINCIPLES OF DOMESTIC ENGINEERING

point of view of the home in this particular, or to any definite system in which each member is equally involved, but rather are living under a vague notion that somebody will keep the house straight. The only weapons needed are criticism, insistence, and mutual dependence. Scientific management rests upon a well-ordered *independence* in operation, and unless a house is started upon this road, it will lack the fundamental element that makes for the success of the modern standardized home environment which is created not by any one member of the family, but ordained and sustained by each one thinking, doing, and being his utmost on a co-operative productive basis: business-like in its practical foundation, but surpassing all business expression in its own natural and poetic possibilities.

CHAPTER VI

THE BUSINESS OF PURCHASING

"Human wants of dearest value hang on slender strings"

*"We must not make believe with our money, but spend heartily
and buy UP and DOWN"*

The business of purchasing involves first of all a knowledge of values. To decide what is really wanted, to appreciate the worth of the article when found, and to utilize it to the best possible advantage, is the self-evident standard to be attained in the study of how to spend. But what do we mean by the knowledge of values? For within this many-sided and most important phase of this subject, the housekeeper is most deeply involved. To know not only what is of immediate worth, but how one's purchases will affect other consumers, the distributors, the producers, and trade at large, thereby reaching out and molding the future conditions under which purchasing must be done. This it is that should make for the final decision in the business of buying. Every article that is bought under any circumstances whatsoever, no matter how trivial or insignificant, affects the Market. As a pebble thrown into the stream plays upon the water, starting from a tiny center, but disturbing a larger and larger circle with each succeeding ripple. Take, for instance, the "staff of life." We must all buy bread, or such material as will produce it. Of the latter, flour is the essential ingredient; the one article purchased by a larger number of housekeepers than any other single thing in the house. The value of bread is to feed in order to nourish the body. How many of us know the quality of wheat best suited for this purpose? To be sure, we know names and labels that stare at us from package, fence, and page, each declaring itself "the best" and "the only one of its kind on the market," but how little this means in the face of our ignorance as to how it should look, taste, and feel, and under what processes it

PRINCIPLES OF DOMESTIC ENGINEERING

should be cleansed, and the changing conditions of trade under which we buy. You may say that a good Firm, or House, is sufficient guarantee; that people who have built up a business on a reliable and honest foundation, have made a special study of their subject and the best method of its production; they therefore "stand back of it" at all times with the strength of their reputation and cannot afford to offer you nor allow you even to purchase an inferior article under their label. But there are two things always to keep in mind just here. That the manufacturer himself is not infallible as to what is the very best even in his own line. And also in the last analysis the purchaser is his standard of quality. "What the people want" is the curse of the market, as it is the curse of the press, the stage, and the economic and art world generally. But as there is no curse that does not carry with it the elements of a blessing, or in other words, no destructive process that cannot be made the basis of construction, so "what the people want" may be our great adjuster and the true standard of excellence. But they must *know* what they want and not merely desire, or be made to drift toward what *is*, in an aimless and irresponsible mood.

Wheat is a basic form of supply that might be called the universal food for man in all countries and under almost all conditions. It will give him the perfect "balanced rations" that his body demands, with the addition perhaps of some fat, but that does not mean that one will not starve to death on the bread that is set upon most of the tables of the country, and why? Simply because the manufacturers of flour in catering to the demand of the consumer for a white anemic and perverted food, have made it all but impossible to buy the whole of the wheat in such form as should best be valued by the housewife.

In the Book of Books, we are told that man came from "the dust." In a handful of earth there are practically sixteen natural elements, and curiously enough there is to be found the same sixteen in proper proportion in every perfect grain of wheat. It would therefore seem to need but little imagination to picture what would be the result when not only nine of these

THE BUSINESS OF PURCHASING

elements are removed in modern milling, but the seven remaining which are minus the heart of the grain, put through a patent process of bleaching and heating that results in not only a partial food, but one in which subtly lurks all manner of danger to the body, anemia, neurasthenia, constipation etc., from the fact that the system requires for its right metabolism, the entire list of elements in the same relation and proportion that were placed in the wheat by Nature herself. It therefore behooves the housewife, if she would really *nourish*, as well as simply feed her family, to know the actual *value* of flour; to appreciate its appearance, its taste and flavor, and to become skilled in its use. In the Chapter on the Preparation of Food, we will repeat this most important lesson. Here, we propose merely to suggest certain neglected points in the consumer's sense of responsibility as a purchaser. Demand, truly enough, regulates the market, but that demand if it is to make for better conditions, must be intelligent, with the realization of what the material purchased is designed to accomplish, the true quality of each article must be recognized, and its proper use demonstrated, if we would do our part in establishing "what the people want," thereby protecting ourselves and others from the dangers of a perverted market and the exaggerated cost of artificial living. Just so long as we purchase in a mechanical sort of way, believing we have the right thing simply because we have asked the dealer for "the best," or for some "brand" or make, unknown to us except by name, there is grave danger of the consumer being exploited to the full limit of her susceptibility. Only by becoming an intelligent purchaser can she relieve that very large part in the cost of living which is the result of her own neglect of the essential study of values. For there is a great waste ever going on, because of her thoughtless isolation from the three-part movement of the wheel of commerce, of which she should be the enlightened controller, instead of, as so often happens, the cajoled victim. The great wheel in which the producer forms the hub, or central pivot, the distributor the various spokes, and the consumer the rim. The wheel that not only requires the proper co-operation of its rim, through a complete readjustment, but the doing away of

PRINCIPLES OF DOMESTIC ENGINEERING

the surplus spokes that have too heavily weighted its would-be easy movement. For these extra spokes have almost taken the place of the rim in the middleman's effort to push his part to the limit. Faulty distribution is the problem of its weight and waste in action. An unrelated, unformed and unorganized rim the cause of this waste.

What encouragement is there to raise apples, or make cloth when it is but chance if it proves not to be a loss for the producer to get his goods in sight even of the consumer? Not long since a barrel of apples was purchased by a friend of the writer for \$5.95, which contained a note from the grower saying: "This fruit brought me 57c. What did you have to pay for it?" Counting 25 cents for the barrel and 30 cents for transportation, the most we could figure for actual cost was \$1.12. Where did the \$4.83 profit come in? Surely not to any one agent, but undoubtedly much of it was divided between some unnecessary middlemen. The surplus spokes of the wheel, unfortunately, cannot be removed by any one repair shop, but must be eliminated through the rim and the hub coming into better and more efficient relation. The Parcel Post is hopeful—although unreliable and ill-adjusted, as yet, it should help in our need for a shorter, simpler and more direct route from the farm to the kitchen door. Nothing can so quickly bring this about as an intelligent demand on the part of the purchaser for such a route, and nothing will focus our attention upon the practical working out of such a system so readily as to realize our place and function in a more easy revolution of this wheel. The consumer must not be circled around unknowingly, for the time has come when she—(and we say she, because the woman is the purchasing agent for the home)—is the only salvation in the economics and ethics of trade. The dealer is helpless. The shop is but the medium between the fixed conditions of larger combines which are the wholesale standards and her whim, her prejudice and her demands. To be sure, it is a distributing center and as such one of the spokes, undeniably (in lesser numbers than now exist) a necessary spoke, but it is in her power not only to control the standards of the retail business in a town, but to close them out

THE BUSINESS OF PURCHASING

when it be her will. She may combine to purchase her material co-operatively, or she may thoughtlessly drive the poor dealer into greater expense and waste than competition can endure, by her fastidious desires for elaborate wrapping, costly packages, a luxurious environment and frequent and expensive delivery, as is becoming a necessity even in the small store. Co-operative buying while appealing to us of the Housekeeping Station as a legitimate and practical method of cutting down the cost of living, at the same time, suggests a kind of action in retreat, a running away from actual responsibilities in the social and economic world of trade of which we as consumers are an integral part.

Co-operation, yes; first, last and all the time, but rather an educated co-operation of the normal purchasing units, that go to make up a healthy, prosperous business in the town in which each is a factor. This can be developed only by the various parts of that business coming into sympathy and understanding with each other. A beginning has been made in this direction, among the merchants of various cities, but so far as we have any knowledge, the consumers, or the women of the town have not been included in these meetings for the advancement of trade. And yet is there any reason why the Woman's Club, the Manufacturer's League, the Growers' or Farmers' Association, and the Board of Trade, should not all come together and study their economic relation to each other? And more than this, the Woman's Club is the agent to initiate just such a movement. A combine of this sort would not only be of inestimable value to the business of the town, but to the woman nature as well and to the working out of the home budget. For it is her weakness, we may say, to consider the grocer on the corner and the little shop in the middle of the block, from a too personally sympathetic point of view. The good of the town, and the prosperity of business itself is that there should be fewer and better grocers, butchers and bakers. In almost every town of New Jersey there are so many of these duplicate shops, that they not only destroy each other, but the character and standards of trade that would be possible were it not for the competition that is almost illegitimate in its closeness, express-

PRINCIPLES OF DOMESTIC ENGINEERING

ing itself in one way through "cut prices" and in another through a form of "Bargain Sales." If ever a financial and social danger should be avoided, it is the premeditated bargain sale. What we believe to be "below cost" to-day has subtly concealed within its plan the greater expense and waste for the purchaser of to-morrow. The consumer has no idea of the moral, as well as economic effect of this universal desire to get something for nothing, or she would be ashamed to purchase from the average Bargain Store, or Counter. This alone is a subject of interesting study for any woman's club interested in the civic questions of the day, but too large a problem to have more than mention in this Chapter.

The business of purchasing, as we see it from the scientific housekeeping point of view, resolves itself then into something more,—even for one's own protection,—than supplying the actual material needed to run the home. It means keeping in close touch with the market. It means knowing the right sort of goods to be produced, and the methods best suited to their distribution. It means taking an active part in the business of the town and doing one's utmost to protect and support the merchants who prove themselves worthy from an efficient and ethical standpoint. The honest dealer is too often wiped out of existence because of the ignorance and thoughtlessness of the average woman customer, who requires him to keep an up-to-date and even luxurious shop. To have a large and varied stock of goods. To wait upon her every mood with time and courtesy, sending orders several times a day to the other end of town should her memory happen not to be of the best, and while he is trying to make good in the situation, she will without thought of the consequences walk across the street, or next door, and buy large orders of inferior goods, perhaps at short weight and under unsanitary conditions, because of a "cut rate" sign in the window of some staple article that cannot possibly be sold legitimately under the "one price system" except at a loss that only those understanding the trade trick fully appreciate.

Of course we do not mean that to be simply honest is sufficient reason for support. A dealer must also be efficient, know

THE BUSINESS OF PURCHASING

his business, and do his best if he expects the world to help him succeed, but such a standard applies just as well to the customer. It is *her* business to know that a bushel of potatoes, for instance, should weigh 60 lbs.; that the law says all dry measures should also have certain weight. She should know that an ordinary hen's egg may and does often weigh 3 ounces, and that many of the eggs on the market weigh from 1 to 2 ounces apiece, which makes the cost of one dozen three times what might be, in actual egg material. She should know the real weight of nutritive value in package goods and whether the added convenience in handling is worth the price. A great cracker concern has lately expended thousands of dollars for machinery that would fill the same sized box with one less cracker than formerly. Such an act is significant. To eliminate waste everywhere is immensely worth while, but the consumer must be ever on the alert that she be given her money's worth at all times in the value of the material as well as in bulk, or in proper count. A dozen apples may weigh 3 lbs., or they may weigh 8 lbs. A small bottle of olive oil at 25 cents in actual measurement, without considering quality, costs \$7.80 a gallon, when the very best may be bought in the retail market for \$3, or 75 cents a quart measure. Labels of course are to be read and studied as to their meaning, but they tell only a tiny part of the story of the goods, and since "the back of the Pure Food Law has been broken," they tell so little that one is not safe in putting even slight faith in their meaning. No, there is no escape for the consumer except to know what is meant by the business of purchasing. Education from all sides is her only protection in the great problem of the high cost of living. Its solution is concerned more with the women than with any other one factor. To guarantee herself right values, she must do her part to protect the home in its material and supplies, and in the plan of the budget that is the means of control. It is just as interesting to study how things are made and under what conditions, as it is to study foreign countries. It is as fascinating to appreciate proper textiles and their qualities, as to design them. It is as useful to know, for instance, the effect of cold storage upon foods, its use, and its

PRINCIPLES OF DOMESTIC ENGINEERING

abuse, and the very great part it plays in the economic and health problems of the day, as to know the science of cookery. It is as necessary to fight for proper inspection of our food supply, and the unadulterated and reliable or staple form of all material that goes to make a home, as to fight for suffrage; for the right of suffrage without knowledge of conditions lessens its greatest value. These things are big subjects for women; that, however they may desire to evade them, cannot with impunity be dismissed with a phrase. It is the woman's work of the future. She is the last word, the responsible monitor, and the tribunal of man and his prosperity, and if she has any real and unselfish love for him who is nearest her heart, or the womanly conception needed in the making of the larger home of the future, she will realize that these things, as well as her own protection, are dependent upon her better knowledge of the values of life. The study of the business of purchasing, and all that is involved in knowing what she wants, in appreciating form and quality, and in being able to properly utilize the material of her choice, is a subject of interest to every woman, that cannot fail to help her realize the importance in each simple act of personal selection.

CHAPTER VII

THE ROUTE OF MATERIAL

"A place for everything, and everything in its place"

Within the evolution of all things, some of the sayings of our grandmothers but come to us again in another and more definite form for new use and understanding.

We find the word "Routing" merely the modern, efficient expression for the old command: "Make your head save your heels," and for the better carrying out of such familiar counsel as: "What is worth doing at all is worth doing well."

If the business of buying for the home is, as we believe it to be, of immense importance and significance to the world of commerce, as well as the individual, then that of the storing and using of materials becomes closely allied in consideration to that of the study of values in purchasing. For what, why and how are these goods to be used?

The only way to properly "route" the various departments of an industry, is to have in mind the entire object for which such separate departments exist. Perhaps the main and continuous purpose of a home is the furnishing of food. We must procure, prepare and clear away food, but food of what nature and why? Again, we should keep the various rooms, particularly the sleeping rooms, in orderly, attractive and sanitary condition, but what motive prompts us to this?

We should have fresh, clean linen on demand, and always be ready to respond to the children, to receive a friend, or help a neighbor, but how? Within what method? And to what end? Let us become psychologically disposed for a moment, and move from hence intelligently toward the concrete and separate facts.

A home is, as we know, a center of love. The object of such a center is to live under maximum blessings. To live fully and truly, one must have health, wealth and prosperity. Therefore a home should be the supply house for the means to insure these

PRINCIPLES OF DOMESTIC ENGINEERING

conditions. Physical, mental, moral and spiritual health is the result of right food, feeling and action. Wealth includes comforts, talents, peace and affection, which in whole are procurable only through the means of some money and personal development. Prosperity, on the other hand, presupposes knowledge, productiveness, religion, and happiness, and expresses itself best through initiation and a proper sense of the inter-relationships of life. A home somewhat resembles the ideal school, save that it is more fundamental and recreational and includes more subjects. The model school is a place to learn to *know*, to learn to *do*, to learn to *be*, and the greatest of these is to *be*. The right and the left hand of knowledge, we find to be attention and perception. That of doing, includes imagination and perseverance, and to be one's best, one must ever aspire and *determine*. Where this triune purpose is intelligently carried out, the individual should find himself well equipped, or schooled, to take his part in the outside world, but the home is not merely a place in which to learn. It is rather a center in which and from which to *live*. We must therefore plan a little larger and more inclusive course than the school through which each member shall pass if he would grow to the full limit of the seed that is in him. In the ideal home we discover rather a double triangle of needs. A meaning of not only what it is to learn, but what shall it be to live?

There are six motives that together move the soul of man to be, and it is essential that we keep the Inner Light so burning that all six may ever see the vision of the coming day,—namely:

Health, or the very spirit of man, which is maintained by proper food and effort.

Wealth, or its means in matter, which is determined by one's power of imagination and utilization.

Knowledge, or that desire for truth which grows with discrimination and experience.

The love of beauty, which is the very soul of Creation, born of desire and the Art instinct.

Sociability, moving toward the Brotherhood of Man, guided by relationship and sympathy.

THE ROUTE OF MATERIAL

And last of all, a motive of rightness which interprets God in a practical application of religion and a working sense of justice.

These are the roots that must be started to grow in the home. The native necessities that are mothered and cultivated from day to day. Fed by the family life, and made to act by reason of the daily requirements, and the kind of surroundings.

In every house there are found to be certain essential duties, or occupations, that form the very substance of the structure upon which the family life rests and moves, and while these vary in degree and kind, the main factors and principles are the same in all home-making, and the first effort in routing the work should be to determine these most important factors, and then the details. This can only be properly understood by studying all the elements collectively, so that their interdependency and interrelationship shall be clearly perceived. Every requirement included by the kind of business to be housed, the sort of work, and the results wanted. One should have a clear and definite understanding of just what each department includes, and not only be able to perform the work properly, but have a knowledge of the fundamental principles of each part, as well as the whole. The efficiency of a home is in proportion to the degree in which its equipment, materials, and operations are intelligently managed and controlled to produce the results desired. In other words, by the way in which its material is utilized, the problem being the interrelation of it all.

One must consider the effect of each act upon those that follow, for all conditions that exist are the result of former acts. To plan ahead is to see clearly causes and effects as they will be made to move in regular sequence, beginning with the initial effort.

All work should be so planned that there are no steps to be retraced. Everything should be arranged to make it easy to pass from one occupation to another with the least possible waste in time, or motion, and where it is practical, work should proceed from left to right.

Housework, in order that it fulfill its varied mission, is made up of a great variety of subjects, and yet they may be reduced

PRINCIPLES OF DOMESTIC ENGINEERING

to three main departments. That of food, laundry, and cleaning. There is besides these, the one of sewing—although this is not usually classed as housework—and that of nursing, or the care of the children, which again while it is a part of the home and involves much of the home-work, is not strictly speaking to be classified as housework proper, and therefore will be considered in a later chapter.

The material,—its use and its location,—that enters into the proper carrying out of these three principal branches in the making of a home, is the immediate subject for our consideration. After it has been purchased and brought to the door, what should be its route?

At the Experiment Station one of our efforts was to make it unnecessary for the delivery man, or boy, to come into the house. A sort of receiving station was improvised, consisting of a well-designed receptacle, a shelf or broad ledge, and a small drop table just over the pump, particularly instituted to receive the washed and ready vegetables from the garden. Just inside the porch door, on a small shelf, was placed a standard pair of scales weighing from a fraction of an ounce to twenty-five pounds. Under this a standard set of dry and of wet measures is to be found, and a file for all bills, receipts and notices. Everything can therefore be checked up, measured and weighed before routing it to its prepared place of storage, which is, by the way, as nearly in the place where it is to be first used as is possible to arrange it. String and paper when kept, is deposited right at hand, a scrap basket receiving what is discarded. Of course the storing is controlled more or less by the main equipment of the house, the location of cupboards, ice-box, working table, etc., but proper routing should place these in the readiest location. The arrangement of the equipment of each department, not only requires the most competent knowledge that can be found, but this knowledge should include that of being skilled in just how to do the actual work, according to the most efficient system. In preparing and clearing away meals, there are probably more trips made to the ice-box than any other spot, unless it be the sink, or water supply. Therefore in our case the ice-box was placed where it mini-

THE ROUTE OF MATERIAL

mized these steps, requiring only one from the dining-room and three from the kitchen. The working table came next, with storage places for dry and staple goods both over and under it, somewhat in the form of a cabinet, but not as confining. Places for all sorts of things, such as tools and conveniences, were assembled about this particular table. Next to the table came the stove, which being practically heatless, was no objection in its nearness. Just around to the right was placed the receiving table for food ready to serve, en route to the dining-room. Thus making a perfect succession of the parts of the act of preparing the food for the table, with the least confusion and waste of effort.

Again, with the return of the dishes, after being placed together, they are taken back in one trip, the food stopping at the ice-box, or safe, and the dishes moving on to the machine, or place of washing, which is directly under where they are stored, thus making a simple circuit of this whole procedure, that must be so great a part of the day's routine. No travel in a backward direction is allowed in a properly routed task. To progress uniformly is the continuous object. The same principle we find applies in the cleaning of a room. All the materials needed in the process should be kept or stored as near the point of use as can be arranged. But for the more rapid dispatching of this work, let us take an entire floor as an example, rather than one room, the idea being that it is much easier to move along in one kind of task to the finish, provided it be not too long and fatiguing, than to jump from one thing to another too rapidly.

H The old way to clean a room was to first dry dust everything, beat, brush and move out the furniture, attack the floor vigorously with the broom, after closing all doors that the cleaning of one room might not contaminate another. Bring the tools from all over the house, prepare one's self for an attack of dirt and all the rest of it. The present routing of the work in the cleaning of a main floor of a modern home is carried on under more humane and civilizing methods. One need hardly think of protecting one's self from the dust, any more than in walking in the street, or moving about at pleasure. Glove your

PRINCIPLES OF DOMESTIC ENGINEERING

hands, if you will, and use a dustless duster, or any means that will not scatter dirt. Pass from one section to another, making each surface in turn as spotless and orderly as may be. Progress from left to right, until each piece of furniture has been carefully gone over. Do likewise with the windows, walls and woodwork, sucking the dirt into an efficient cleaner, until the circuit has been made, when the floors are ready, nothing having been disturbed from its place, or covered for protection. A good suction sweeper may be made to pass from one rug, or carpet, to another in rapid succession, the finishing touch being a dustless mop where any hardwood floor needs attention, and perchance a few flowers to grace the result.

This method followed in the efficiency spirit by actual test not only reduces the time and labor 50 per cent. over the old way, but leaves the worker comparatively unfatigued and in personal ease and fitness.

And so in the routing of the laundry work, which we shall take up in another chapter.

Enough has been said here to suggest not only the practical value in a well-thought-out routing system, but its intimate connection with the purpose for which the home exists. There can be little health, wealth, or prosperity, unless the very center of love in which one lives, moves on in a thoughtful way to supply the physical needs of the family within which rests the substance for the mental, moral and spiritual quickening of the individual.

The routing that realizes the most perfect daily results is more than the kind of material used, and more than the separate tasks. It is practically the effect of one's closest environment, as it were, in its activity. The interrelation of the domestic activities with the domestic life, for life in the average home is of necessity moving rapidly all the time. So much so that the scheduling of each task becomes the scientific means of carrying out the right form of routing. To plan ahead, so that the proper provision is made for the completion of each task in a given amount of time, is the object of a schedule. This is considered by many authorities to be perhaps the greatest economic factor in production. The cost of operating can only

THE ROUTE OF MATERIAL

be at its lowest where the work has been planned with the equipment to fit the demands of the most efficient schedule.

The average woman thinks she knows about how long it will take her to perform a given task, but a few minutes more or less makes very little difference. A man scheduling the work of a factory, or shop, on the other hand, makes a most careful study of these few minutes. Can they be reduced, is his question, and he answers it by working at them assiduously with every means known to his profession, just because it is the economic point that may be changed, thereby resulting in profit, but a home schedule should be a fairly flexible one. It should follow a clearly defined routing diagram, but it should give way whenever the profit of the home counts for more than arriving at each station on time.

We should, however, form very clear and graphic pictures, or diagrams, of just what is to be done, why, and how, and keep score-cards of results, with a modern filing-system for reference. In this way only can we properly schedule and dispatch a given task. Results are much more readily realized when we have formed the habit of quickly and definitely grouping facts and parts together, forming the image that we would like to have realized. Such images are then but waiting to be summoned into existence.

“With a place for everything and everything in its place.” With a real understanding of the most intelligent system of “routing,” which is the basis of the desire to “Make your head save your heels,” and with a well-planned schedule to guide each step by the way, surely, as our grandmothers said—“What is worth doing at all is worth doing well.”

CHAPTER VIII

THE INSTRUCTION BUREAU

*"A slender beginning, gradually forming a
select Instruction outline
—The foundation of right work"*

As one pictures the amount and kind of instruction collected by the housekeeper for the operation of the average home, one sees perhaps a receipt book, or two. Some ancient family records of the works of mother, or grandmother. A few scraps of papers gathered together, the copied rules of some especially good muffins, cake, croquettes, or salad, enjoyed in the house of a friend, or neighbor, who had perchance been particularly successful each in her way. A drawer of old patterns that cannot possibly be used again, because of the change of fashion, or of outgrowing that sort of thing. One or more designs for an embroidered doily, or lamp shade, some tonic, or lotion formulas, a few indiscriminate clippings and ladies' Home Journals. Some directions for special emergencies, and a plan or two tucked away somewhere for the remodeling of the kitchen, or the addition of another bath room—found, however, to be too expensive at the time when the carpenter reported upon it, and so awaiting the coming of the "Ship."

And this is neither overdrawn, nor surprising, for almost all housekeeping Instructions, up to a very few years ago, have come down to us by word of mouth through the traditions of each family. One showing another, by reason of the act being done in the presence of all; the standard being—"the way we like it"—and a right good standard that, in some cases, but how easy it is to learn to dislike what one has discovered to be less than the best, and to like with an added virtue, the thing proved to be the finest known.

Until very lately no factory, shop, or any unprofessional enterprise was expected to carry its own Instruction Bureau.

THE INSTRUCTION BUREAU

A library in the lawyer's office, or minister's study, became an accustomed necessity for the ready reference of the client, or student, but when it came to the various industries, each workman was supposed to learn by experience and the watching of another more skilled than himself. Excellent methods as far as they go, but how much better it is to have all the available information of the country sifted, classified, condensed and ready at hand, from which to draw at a moment's notice; *together* with experience and the right sort of teaching. The first essential being of course the standardizing, or estimate of one's subject, when it becomes a very simple matter to gradually collect information adapted to one's degree of skill in its use. In fact when one has a definite standard of work in mind, all sorts of information seem to gravitate toward one; often from the most unexpected sources.

The writer has for a long time found it useful to have a small pad and pencil attached to the head of the bed, upon which to note any questions, ideas, or facts that might occur to her after the day is over, and just before sleep; a most fertile time for suggestion, making ready for the next day's Planning and Dispatching. Lately she has extended the idea all through the house. An attractive little pad and pencil attached, is hung in an obscure spot in every room, including one at the front door and the telephone, as well as one about her own neck. These are ever ready for any variety of instruction verbally, or casually occurring. Books to buy, music worth hearing, authorities to investigate, notes for reference, and facts and suggestions upon every conceivable side of the home and its parts. From time to time the slips are classified, discarded, indexed, etc., the results entering more or less permanently into the general Bureau, which in this case is merely a flat-top desk with spacious drawers, standing in the office of the house. Here all kinds of information are to be found, or referred to in its more convenient place. Records, papers, receipts, bills, dates, patterns, designs, plans, notes of purchases. The what, why, how and when of things. The sizes and prices of garments for each member of the family, and the variety of instruction needed in the professionalizing and Scientific Management of

PRINCIPLES OF DOMESTIC ENGINEERING

the entire home. The records, slips and bills of articles as they enter the house, at the receiving station, are from time to time collected and classified. Notes of experiments carried on, or tests made in method and machinery, are here listed. The Central card index of all the branch indexes of the house, the account of stores and material on hand, and the condition of the various departments, are made known, and immediate, reliable and accurate records are ever in readiness. A veritable reservoir of perpetual education in all home-making subjects, condensed into the smallest of space, but flexible in its branches. The real material for Instruction being found in most cases in the department in which it is oftenest needed in actual use. Quite a little library has already been assembled in the Kitchen and Laundry, and also in the Medicine Closet; dainty little shelves having been arranged appropriately for each.

While so far it is but a beginning of the Efficient way, it has already proved itself a time, money, and strength saver when once in operation. It gives a certain air of security; a feeling of satisfaction in being up to time and knowing just where one stands, an alert and thoughtful attitude toward one's responsibilities, and becomes a most effective and convenient way of keeping one's self up to date in household matters, a ready reference of the best known ways—for there is but one best way in the doing of everything—a little center, starting from but a lead-pencil and an idea and branching in close and fine relation to every department of the house, and from thence reaching out and gathering in for one's use, the results of the Universe, a source of instruction to which one adds and from which one takes, as occasion suggests, until the housekeeper feels as the literary man in his library,—

“Where all round the room,
The silent servants wait;
His friends in every season bright and dim.”

For if education is the development of the entire man, then surely it should not stop at any period, or subject, but be carried through the occupation of one's entire life. With but the

THE INSTRUCTION BUREAU

right vision, one's capacity for instruction will grow with the years. Instead, however, of going to school, one may in this way create one's own school at home, for as Carlyle says: "The true University these days is a collection of books."

CHAPTER IX

HOUSEHOLD EQUIPMENT, UTENSILS, AND DEVICES

"There are tools to work withal, for those who will"

While the tools with which and through which work is accomplished, should be estimated and recognized as essential to the right kind of results, they are in truth of secondary importance compared with the motives, the ideals, or ideas, the knowledge, skill and productive ability of the workman himself, which is the first and should be always the controlling factor.

To say that all homes, under all conditions, should be immediately equipped with the most modern up-to-date machinery—*because* machinery *is* a wise substitute for hand labor—would be to declare social and economic havoc. Why? Because just as the machinery and equipment of our own bodies, hands, feet, arms, head, etc., have developed through a strong human desire and ability for advancement, preservation, and larger powers of expression, and come into being through slow and persistent effort in these directions, determined and acquired only by our need of a higher conception of life, not merely wished into place haphazard like, so the instruments and organs, or the equipment through which a more perfect expression of the home may be realized, should be carefully studied and desired from the standpoint of their value in making possible a higher and more sympathetically developed social unit, proving itself in a more efficient institution for the production and maintenance of better citizens.

Any and all machinery that can be made to best further this end, is not only worth desiring, but it becomes the duty of the individual and society to see to it that such desire be encouraged to the point of properly incorporating every device known to us, that can be made to advance the standard of the household. Merely getting the work done, or modernizing the external of one's surroundings, is not sufficient reason for

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

the owning of machinery. It should preserve and improve the *quality* of the work, be an inspiration for greater achievement, and add materially to the well-being of the family. This it can only accomplish through proper kind of ownership.

Efficiency, Health or Well-being, and Beauty are the three elements that prove the proper quality of an industry, and, while home-making is without doubt the most universal industry of the world, what percentage of homes are at their maximum quality? We fear but a small number, and we may look for the reason not so much in the lack of equipment, as in the average home-maker's estimate of her own industry. She conceives it not from a creative, organized, and poetic standpoint, but rather from that of following an instinct and a world-custom, with its routine of mechanical activities, returning some pleasure of course, but largely resting on the necessity of drudgery, and dependent upon the most prosy externalities, with hardly a thought of their *inner* meaning. With such an attitude one will accomplish little, even with the finest of tools, that would justify the owning of the implements. If, on the other hand, home-makers can be made to realize that the most common-place duties in life are capable of being made *fine*, developed into operations of intense interest, and used to blaze the way toward a higher form of personality, such an one should be encouraged to use every tool available in the carrying out of her profession, and the building of a home that would stand for something definite in the community.

At the Housekeeping Experiment Station we were constantly asked: "Would you advise me to buy this?" and "Would you advise me to buy that?" To which we would have to reply: "If your conditions are right, Yes; if not, wait until they are." "Study yourself and your surroundings closely before adding to your burden," because everything one owns is more or less of a burden and responsibility. This would often deter the one who was inclined to want everything she saw, and was not, according to commercial view—good *business*—but our work is not, and has not been, the selling of goods; rather the suggestion of a higher standard of housework, and in this the right conditions play a much larger part than the right tools, in fact

PRINCIPLES OF DOMESTIC ENGINEERING

such conditions *demand* efficient tools. It no longer is a question in the mind. You *must* have them.

Now what *are* the most efficient tools for housework? Surely those that are constructed on the very best mechanical principle. They should be strong, durable, simple, well-made, and *beautiful*. Be able to do the work as defined by the best known standard. Reflect a beneficial effect upon the operator, and be produced by a manufacturer who stands back of his goods with an honest, reliable, scientific and progressive attitude. In these days of sharp competition and wanting everything for nothing, this may seem over-much to expect of the business world, but in reality there are many such manufacturers, only too ready to do their utmost to produce the best possible tool under the best possible conditions. Up to three years ago, however, there were very few what might be called high-priced men giving their business attention and inventive ability to housework machinery, but this branch of industry is now growing rapidly and bids fair to catch up with other and more fertile fields of production, provided there be the intelligent demand on the part of the housewife. In a large and social way that would not apply to all individuals, but to the general whole; the *servant* in the house is the obstacle in the way of a proper and educated demand for machinery. As a rule, the finest and most expensive equipment is not safe in the hands of the average servant. First, because it needs a sensitive and thoughtful operator to get the best results. Second, because by virtue of her being a servant, she has probably little initiative, and therefore prefers the old way, for it requires considerable mental effort to change one's habits and methods. And thirdly, there is little encouragement to buy good tools, unless they bring a return in satisfaction and are made to pay for themselves. Where there are servants, the return is too often a loss, through accident, neglect, or waste. To get the most out of a machine, one must have the most in one's self, and while the average servant is not the best type of mechanical operator, what we call the "Servant Problem," or the scarcity of this class, is one of the most encouraging features to the manufacturers who have before them as a vision of household

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

need, nothing short of the automatic, mechanical servant that will, as far as possible, replace the human domestic. You will question: Is this progress? We believe it is, for the reason that it is meeting a necessity, and because, while we may sacrifice many of the little personal delights in having the right sort of maid at our beck and call, the social independence which would result to both sides, would more than balance this mere sense of comfort, and the *fact* is, there are too few of the "right sort" to supply the demand. Again the tendency to specialization, makes the task of management a psychological, as well as an economic problem.

As an example, and at the risk of emphasizing the personal, let me tell the reader how equipment, utensils, and devices came into prominence in the writer's case.

The time came when I had to choose between practically all my allowance being absorbed in wages and the running of a house that at least required three servants for its simplest upkeep: a laundress and cook, a waitress and chambermaid, and a nurse and seamstress, to meet the demands of a family of five. This in turn absorbed if not *all* of my time, the greater part of it, and most of my energy, leaving but slender resources with which to build up any individual, or family life that was worth while. The alternative being to make over the house, family and methods so that strength, money, and time would be conserved, and by so doing meet and solve, if possible, the so-called "Servant Problem," from an individual, as well as a social standpoint. I chose the latter, but was very *still* about it; not even the family were conscious of what was happening. My excuse for having no "help" being that I could not get the right kind,—a truth—and that I wanted to catch up with back debts,—another truth. But all the time I was studying like a student preparing for an examination. Day and night I was carrying the problem around in my head, wondering how best to simplify and organize the home so that the least would be sacrificed and we could continue *indefinitely* sans domestique. I analyzed the various departments of the work, and the necessary duties of each, such as the laundry, the cooking, the cleaning, and serving, and experimented with methods for each.

PRINCIPLES OF DOMESTIC ENGINEERING

I searched for the best devices with which to accomplish the desired results, and abandoned many that I found were in my possession, such as heavy iron pots, hard-to-clean pans, and in short every unnecessary article. Within six weeks I made my first real purchase for the new system,—a general utility family motor, which we soon nicknamed “James, the Great.” He ground the coffee, cleaned the silver, made the bread and cake, washed, wrung and mangled the clothes, grated the cheese, chocolate and cocoanut, sharpened the knives, beat the eggs, made the ice-cream, and in fact did, or could do anything and everything requiring strength and time in the turning, and had the advantage over the other motors on the market, in that any size utility could be used, and special ones did not have to be purchased. Any mechanic, by the mere introduction of a pin through the rod, could make the proper connection, and “James” was easily moved about the Kitchen from place to place, carrying out a general housework program at almost no waste of strength and at a minimum cost of a cent and a half an hour for labor. He was at the same time, supposed to run the vacuum cleaner, but this was never a success; the distance was too great from the Kitchen and the cleaner was of a noisy and inefficient type. This then became my second object of research, and the instrument around which I might say, I began my “mechanical” training. There were a bewildering number of them on the market; a veritable mushroom growth that has hardly yet ceased to produce its kind, constructed upon every known principle, good and bad, and backed by all kinds and types of people. Everything was on exhibition, from the tiny hand toy of a few dollars, to the elaborately installed and stationary plant. Clearly the only way to know which was which, was to find out for myself through internal investigation. This I proceeded to do; first, by eliminating the high-power stationary machine, for this reason—except in unusual cases, the portable machine will do just as good work, with less danger of getting out of order, and at much less cost of money and muscle, for without frequent outlets, which make for expense, a long hose is a tiresome tool to handle for any length of time. Of the portable types, the electric is to be

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

preferred, although there are one or two hand machines that might be mentioned as worth while. After serious consideration, all machines of the hose and nozzle type were eliminated in favor of the brush plan, and while my first purchase was "The Peerless,"—one of the Duntley type—I afterward exchanged it for a "Hoover," which is an easy running, easily handled, beautifully constructed device having a fairly high speed motor with all the power that is safe to use upon any good rugs; comparatively noiseless, with a large compartment for the dirt, and a soft generous brush motion that practically keeps the floors speckless at minimum cost, time and strength. The secret of keeping a house clean, I found to be, in seeing to it that the floors are dustless. The dust that settles on the furniture is not to be compared with the dust that is ever ready on the floor to be stirred up and distributed by every passerby. Oftentimes the floor that looks clean is the real cause of much unnecessary housework and disease; and at the same time the hidden dirt and grit is mischievously disintegrating the very warp and woof of the floor covering.

The third purchase, and to me the most significant and fundamental device in the new system of housekeeping, was the Fireless Cooker. While this did not begin to be the confusing study that the Vacuum Cleaner proved itself, it was surprising to see how many varieties of ways there were in which manufacturers had worked out the practical and simple principle of cooking by the conservation of heat and steam. Boxes and pails made of every sort of metal and wood, interlined with materials good and bad, from sawdust and newspaper to mineral wool and asbestos, costing all sorts of prices and varying widely in efficiency. Practically all fireless cookers will cook. They differ, however, in the time and quality of the cooking, in odor and dampness, and in durability. Soapstone plates are to be preferred, except for the fact that they will, upon rare occasions, explode, which makes me prefer the metal, to which there is little objection if they be kept well painted with aluminum. As metal is a conductor of heat, fireless cookers should be built with an outer surface of wood. The interlining should be of the finest mixture of heat-conserving materials, and the

PRINCIPLES OF DOMESTIC ENGINEERING

inner lining of the very best of heavy pure aluminum. It should have the closest connections compatible with safety, such as is found in the water seal cover of the "Ideal," with the escape valve. It should be as simple as possible in its parts, and always be used in conjunction with a thermometer. The fireless cooker has done, and will do, more toward revolutionizing our method of home-cooking, and therefore our method of housework, than any invention since the time of the coal stove. In fact, we know nothing to be compared to it, for the principle of the conservation of heat and steam—as old as the world, but new in its adaptation,—has within it the suggestion of no kitchen at all, no unpleasant odors and smoke, no unsightly pots and pans, no haste and confusion, no burning and scorching, and furthermore, of proving to the world that civilized man *can* live without cooks.

The primitive tripod in equipment, upon which housework has rested for so long, has been the broom, the coal stove and the wash board, but little imagination is required to picture an era of marvelous difference, when instead of scattering the dust by an unhealthy bodily motion through the house and into the lungs of the inmates, making it necessary to add to the work of the laundry, to more frequently wash the windows, to move heavy furniture, and to do it all over again the next day, the dust is merely sucked away by a safe and sane process, easy and graceful in motion, and suitable to be done at any time. As per example: I cleaned the seven rugs of the front hall, not long ago, while gloved and dressed for a reception.

A washing of ample proportion can be done with the turn of a button, practically not wetting one's hands, or spattering a drop of water: the effort of hanging up the clothes being perhaps the *greatest* one, but what sensible and appreciative woman should object to the healthy and exhilarating exercise of properly reaching up to place in the fresh, delightful air of Heaven, the newly washed and sweet smelling clothes of her own household,—a charming study in motion when properly performed.

Coming back to the fireless cooker in the picture, we see placed in front of it a Turkish rug of exquisite tone, spotless

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

even though it has been there a number of years. On top of the cooker is a vase of flowers, and no sign of labor, or attention, being required, save for the tell-tale silken cord that connects with the button near the window.

These things are fundamental. They herald a time that is to be, when domestic life shall be joyous and free, and the common-place duties feats of beauty.

And now let us pass rapidly over some other articles of equipment which although they be perhaps not quite so near the base of things, are nevertheless just as important in the scheme for higher standards, in that they make practicable a complete plan for betterment, and are in themselves excellent devices.

First, the household Incinerite, that proves it possible to live in a house where there is no garbage. While this utility has a purchase price higher than seems justified, it *will* pay for itself in time, if the disposal of garbage costs anything, and of course it does. In my own case, the time involved in its disposal from the sink to the burying place was an item. The consuming of it right near the sink, at the cost of four cents a bushel, with no heat or odor, and almost no ash, makes all thought of the garbage pail a thing of the past, and the kitchen sink no more unattractive than would be a marble basin or fountain. It may be argued that the *destruction* of garbage is a *waste*, but until we know what better to do with it, it is assuredly to be preferred to the demoralizing influence of messy and unappetizing mixtures about.

For the preparation of vegetables, there are a number of devices that really pay when properly used. A potato peeler costing \$8 does the work very well indeed, although I do not own one of these and have only watched it in operation. A bean cutter, at \$2, is easily made to slit a pound of small green beans in two and a half minutes, run by hand, and a shorter time when connected with "James," a form of preparing this legume that would take at least twenty minutes by hand. Other vegetable cutters, the pea sheller, the raisin and cherry stoner, the purée strainer, the nut-crackers, the apple peelers, and the egg cutters, are all worth investigating *and*

PRINCIPLES OF DOMESTIC ENGINEERING

purchasing when one is quite convinced that they are going to be used often enough to *pay for themselves*.

The Silver-Clean pan I have found of the greatest assistance in conjunction with a buffer, making it possible to clean even the most difficult and complicated pieces in not only surprisingly short time, but with no flying of powder, tiring of arms, or blackening of fingers.

A mangle I also found paid for itself, not only because it saves fully 50 per cent. in time, as compared with a hand iron, but for the reason that it is much less tiring in the motions required, and also to the hand that lifts the iron. As to the latter, the gas and electric irons are wonderful aids in that one need not stand to press, in order to add efficiency by the weight of one's body, to the fast cooling flat iron removed from its source of heat. The even supply at the very place of use, makes it possible to iron in a sitting position with board, chair, etc., comfortably adjusted to one's height and easiest point of motion.

Perhaps the most interesting piece of housework equipment, or device, that has come to my knowledge, is the electric dish-washing machine. This is a simply constructed, very good-looking piece of furniture, permanently installed only to the extent of being connected with the supply of gas, water, and electric power. With the very minimum of boiling water,—not more than two gallons—it sterilizes and washes about seventy pieces of china and glass, and fifty or more pieces of silver at one time. All this, in less than ten minutes from the placing of them in the box, and without touching so much as a finger to the dish-water during the whole most dainty and delicate operation. It is all so simple and yet so ingenious that one marvels why it has never been done before, and as the new consciousness of scientifically washing dishes is developed from day to day, the wonder grows that women have for so long been slaves to the old method of dishpans, cloths, mops, towels, and all the other unsanitary and unhygienic means.

The Dining-Room was one of the hardest problems. How to serve the family in a comfortable and æsthetic manner, with-

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

out rising from the table, over-crowding the dishes, or making it necessary to constantly pass the foods, seemed to consume all my powers of thought for some time, and finally the answer came through adapting two old devices and reforming them for modern use. One, a revolving tray in the center of the table, which we named the "Table Butler," capable of holding each course, and moving near enough to each plate to establish a very comfortable and independent feeling. The other proved to be the original dumb-waiter of more than a century ago, adjusted to five disks instead of three, and mounted upon the most sensitive and easily manipulated wheels, responding instantly to the slightest touch. This we called the "Dumb-Butler," moving "him" from the pantry where "he" is at least partially filled, to a position at the hostess' left, in which "he" occupies a negligible place as far as the table space is concerned, and holds in square inch capacity and in orderly routine, just twice as much as the largest double-shelved English Tea-Cart. This combination has solved the problem. We have eliminated the servant in the room; the need of considering "those who are to eat after"; and the uncertainty of knowing how and in what form the next course will appear, and it is truly but little more work for the hostess than all the things summed up that are liable to be a part of the more conventional method.

Our object in the Housekeeping Station was not to exploit any individual method, or opinion of my own, but to prove through demonstration and illustration, that the same *System* that is applicable to the most productive of modern industries, is equally related to the needs of the home, and is capable of even a higher and more feminine interpretation and translation: Standard Equipment, Standard Conditions, and Standard Operations being the basis of that all-important element—the *elimination of waste*,—and thereby the conservation of the home in its best form. Such standards are not arrived at except through careful study, comparative experiments, and general education, for we mean by such terms nothing short of the most approved scientific methods known, and the cultivation of one's self not only to the appreciation of their value, but to the proper skill and adeptness in their use. In other words, the

PRINCIPLES OF DOMESTIC ENGINEERING

conditions must not only fit the person, but to gain any real results, the person must be trained to fit the standards. Merely to own the materials, is to burden one's self with expense, confusion, and danger, but to desire the tools in order to produce higher and more effective *results*, and to be able to relate them, incorporate them, and properly handle them in one's domestic career, is to add not only a world of interest to the day's routine, but to avoid the danger of disappointment and extravagance, so often accompanying investments unintelligently entered upon.

While our decisions at the Station as to equipment, utensils, devices, and all the rest of it, are necessarily temporary and transient, for better things may be developed to-morrow in every line, their significance rests only upon the fact that they are based upon a scientific and professional theory of the rapid evolution of housework, the practical doing away with the drudgery point of view, and the belief that stultifying and unpleasant conditions must forever abide in the round of home duties.

We have kept apace with inventions and improvements, discarding each as something better came into view, with the conviction that what is really needed by the average home-maker is not so much these added possessions, as the feeling of faith and hope in a domestic future. This may be attained for the wanting through the adjustment of herself to advancing modern economic utilities. There are numberless articles upon the market, well-made and suitable to certain conditions. Our idea was to choose one representing the best class of each in its line, proving the System thereby, and not simply the exploiting of novelties, or the insistence upon any special make. The small refrigerator plant, or ice machine, is coming. We already have a number from which to choose, but up to date we cannot fit them in practically to the average home with the assurance of economy; although "The Montclair" and the "Automatic Household Refrigerator" *seem* to be the answer to this need. Both are worthy of investigation.

Hot Water Heaters are numerous, and nothing so far we believe can give greater comfort than the class of which the Ruud is an example, if properly used, the burners cleaned oc-

HOUSEHOLD EQUIPMENT, UTENSILS, DEVICES

casionally and the hot water not wasted. For actual economy in money, no method of heating water has been devised that is to be compared with the tea kettle, or tank, over a properly regulated flame, together with a boiler connected with the furnace during more than half the year. The thermostat, thermometer, and regitherm should have a word in passing, for they deserve to be more generally used throughout the household temperature conditions, and lastly, a word for the electric floor polisher and scrubbing machine, for it is most efficient and effective, "doing over," as we say, old floors and rewaxing, cleaning and polishing the newer ones. While any woman can readily operate this machine, it is more suited perhaps to the disposition and skill of a man. However, not having one handy, should not prevent the floor having a refinish should it require such treatment. The elevator ice-box or cupboard is also an ingenious device, serving as a wine closet, a fuel or refreshment lift, or an extra storage space when one prefers.

A little window-washing machine is now a subject of investigation. This consists of a tiny motor, a flexible shaft, and a revolving pad. It, however, does not yet successfully work in the corners. Here we watch and wait.

But the list of realities and possibilities in household equipment is as long as the demand, the quality in exact proportion to the kind of demand, and the progress will be as rapid as proper education can be made to open the way. Equipment, and all it stands for, is worthy the most profound study. The process of adequately equipping one's self for service is in proportion to the standard of service desired. The apparatus is involved in, and second only, to one's ideals in operation. Proper utensils should be ever at hand with which best to succeed, and newer and newer devices of finer and finer excellence must be the result of our determined and united demand—for—what we believe to be—the Practical Solution of the present Servant Problem.

CHAPTER X

THE ELIMINATION OF DRUDGERY

"The discontent with the work you are compelled to do, comes from doing it in the spirit of a drudge"

"Thou O God, hast given all good things to man at the price of labor"

"Housework is drudgery," or so it has been generally declared and with such an air of finality by supposedly thoughtful men and women everywhere, that the world has become impressed and hypnotized with what might be called the mere ghost of a truth. The fact being that the sense of drudgery does not exist where there is a creative and properly motivated attitude. The humbler and less interesting tasks are done with a buoyancy that foretells a living result. All the dreary routine performed for routine's sake, the mechanical results, the lack of initiation, and the motiveless and inert manner of the worker are as the phantom effort of the Godless man. There are two kinds of drudgery that stand out very clearly in our minds, although we find but one root for these twin branches. First: the constant performance of servile labor that makes one feel as a slave. And Second: the necessity of toiling at something in which the heart does not enter. Both, however, spring from a common meaning of dragging, putting, or drawing one's self together, in order to perform a grim task; therefore we say the element of drudgery is of the mind as well as of the body, and is the direct result of doing work in an uninterested, mechanical, or spiritless manner. The remedy being to cut down the daily demands upon the worker, to a place where body and mind can effectively co-operate, and where the spirit is properly animated through a better understanding of the true and essential and through the freeing of itself from the burdens of the purely conventional and non-essential. In most cases one acquires the feeling of a drudge not because of over-work, heavy, hard, or menial labor, but rather for the want of a right

THE ELIMINATION OF DRUDGERY

sense of the meaning and importance of the less interesting tasks and the conditions and surroundings under which they are performed.

It is perfectly possible to take the crudest and most primitive of occupations and perform them with the attitude of a scientist, that is, note all the facts, study the parts, relate them to the whole, and cultivate the standard. As for instance: the writer became interested to know how best to lift heavy weights, so as to profit rather than suffer from the result, and among other things took care of the furnace for a number of months in succession. The putting in of coal, the shaking, and the taking out of ashes became an exercise in physical training. One that returned in good vitality, all that it took in energy. Besides developing a certain masterful feeling in understanding the science of lifting weights. It was a regular and uniform effort of the body and mind for each day. A fairly good-sized shovel of coal was found to weigh twenty pounds, and it became a point of interest to try to feel just that amount, no more and no less, at each lift. The number of shovels used a day was listed upon a wall pad, which determined not only how long a ton lasted, but approximately whether it had been honest weight. Incidentally another way to check up the coal dealer was to mark the bin at the point of the proper measure, in lieu of appropriate scales. The walk from where the fuel was stored, to the furnace, was the shortest possible distance, just long enough to note the foot pounds and the manner of moving under a load, and to get a balance that was right for the aim, the swing, and the proper guiding of the shovel through a door little wider than itself, that the coal may be evenly distributed over the whole bed. Precision, concentration, and rhythm were all essential elements. To lift even twenty pounds repeatedly and not have it a fatiguing operation, it is necessary to make the effort from the entire body, centering the force of the feeling, however, in the feet. Not with a spreading and heavy sensation, but rather with a springiness from the ball and great toe. A lifting from the inside of the forward part of the foot, while expanding the lungs so as to fill the body with air before each effort, a precaution that makes it both safe and profitable to

PRINCIPLES OF DOMESTIC ENGINEERING

raise and carry a heavier load than has seemed suitable to the average woman. The limit being one's inability to so evenly distribute the weight as to make of the entire body a flexible, animated lever, braced only from the inner side of the great toe. When the strain is allowed to center in the back, the arms, chest, or abdomen, the risk becomes too great for safety, and instead of such effort accumulating strength, it is inclined to break down the tissues about the place of contraction. The woman who carries the great bundle on her head, adds to her strength and endurance by virtue of the even bodily effort centered in the feet of necessity that the balance be sustained. The uncultivated act differs, however, from the cultivated, in the fact that the peasant woman generally centers all strain upon the heel and spine, while the educated body shifts the weight to a triune basis. The toe as the bracer, the diaphragm and spine together the support. And so one might note and study all sorts of facts and useful results even in the shovelling of coal. The example and suggestion of the care of the furnace is given merely to show that the crudest, commonest and most physical of tasks may be entirely taken out of the realm of drudgery and made to return cultural profit simply by the introduction of a little thought and doing the thing from an analytic and synthetic basis, raising the standard of one's motive from that of a bare driving necessity to get the work done, to the ideal of making every task, no matter how uncongenial in the beginning, give a return of profit and pleasure by relating it in whole and in part to the highest conception of the object of its performance. This result is in direct proportion to the quality of thought and action used.

We have for so long had such a false notion of the place and value of physical work, we have separated the mind from labor, even to the point of imagining one could think one's way through life, believing such an intellectual conception superior to the use of one's two hands. But the more widely thoughtful man and woman knows perfectly well that the trained intellect must react upon bodily effort, if one would avoid anemic and unhealthy mentality. It almost seems as if the whole people were busy trying to rise above work in order to realize a higher

THE ELIMINATION OF DRUDGERY

culture, drudgingly doing what must be, in order to get rid of doing it, and by shifting the burden upon somebody else less able to carry the load. The desire for pleasure is rampant. "Eat, drink and be merry, for to-morrow we die," is the motto of many an otherwise sensible person, even though it is known that one cannot find any permanent merriness in mere eating and drinking, and it is not thinkable that life is so transient that we can die to-morrow, for though we pass from this sphere, we must take with us the results of a personality builded here, which is after all the only thing worth having, that is really one's own. Such a personality is the result of the combined and active powers of the individual through and in some particular kind of work.

Therefore, while it is a truth that most of us are having too little real pleasure, and very much too little leisure, it is a fact that these essential elements to well-being, can be best and oftenest provided by arriving at them through one's daily occupations and permanent environment. To force one's self to do six days in the week what is felt to be drudgery, and then to cut loose on the seventh and follow that phantom of temporary pleasure, only to return and drive for another six, is giving drudgery the upper hand in its effect, ultimately to end in disaster, or an abnormal craving for more artificial pleasure in order to strike a balance. Is it not healthier, wiser, and more effective to eliminate the sense of drudgery, and unpleasantness in work, by teaching and demonstrating the scientific way of doing everything? By applying the system of efficiency to the end that the crudest of tasks may be an education to the worker, lifting him with the help of his own encouraged initiation, to not only higher earning capacity, but greater appreciation and buoyancy? There is joy in accomplishment, more joy in progress, and most joy in accumulating possessions. Not those, however, of a temporary and material kind, but rather the possession of a talent well developed, of a capacity to enjoy and sympathize with, of knowledge to do and to be one's best, and the accumulation of a store of good things to give, that can only be the result of experiences used wisely. Such possessions cannot come through the limited effort of buying, or thinking them into place.

PRINCIPLES OF DOMESTIC ENGINEERING

A spiritless toiler is a deadly and pathetic spectacle. "The Man with the Hoe" is akin to "The Girl in the Kitchen." Each unconscious of the great service in which they lead, ignorant of its meaning to themselves and to their fellow beings; moved by the common thought that theirs is a lot of drudgery from which there is no escape. But surely it cannot be that a Power that has builded this beautiful World, has made human beings who must forever toil and drudge for a mere and meager existence. We know it cannot be, and that nothing but our blindness has ever made it so appear.

Education should give us a wider outlook in our daily tasks. With a strong enough reason for doing, the ways and means become a pleasure in performance. There is no longer "just so much drudgery to be gone through with," in order to finally "arrive." The "arriving" is all along the way, because each effort is an "arrival" in itself. The every-day exercises, duties and cares, which we are wont to look upon as drudgery, are well called "the weights and counterpoises of the clock of time, giving its pendulum a true vibration and its hands a regular motion, and when they cease to hang upon the wheels, the pendulum no longer swings, the hands no longer move, the clock stands still." To try to avoid these, or to force one's self through them, in order to play to-morrow, shows a lack of appreciation of their real place in the purpose of life. Far more enlightened is the attitude that turns and faces what would be drudgery, with the conviction that each and every task can give in return much that is instructive and pleasant if the worker will but become responsive and lend himself to the study of what it would teach. There is pleasure in the doing of a thing with one's entire self, but when only a few muscles, or a single faculty is used, at the expense of others, it enters very near the portals of pronounced drudgery. The thing to do is to so analyze, or have analyzed the work in hand as to preserve the essentials, and strip it of everything that needlessly makes for slavery of mind, or body. It is unhealthy and degenerating to work as a drudge. No one should be immoral enough either to do it one's self, or to require another to so work. As far as housework is concerned, there are enough machines on the market

THE ELIMINATION OF DRUDGERY

to do all the heaviest and most laborious operations, leaving time to properly consider and perform the necessary tasks of the different departments in their relation to each other, to the welfare of the body, and to the home as a whole. No one part should absorb the attention to the exclusion of other equally important departments. No work should be done in a manner that does not add to bodily strength and beauty, and the creative atmosphere of the home should at all times be sufficient motive for jealously guarding it against any possibility of any continued drudgery happening under its roof.

In the following chapters we will discuss the subject further, and in detail. It is sufficient here to merely suggest the importance of doing away with an unhealthy and destructive element that makes for trouble all along the line. That it can be eliminated has been proven. It is largely a matter of attitude, education and conviction. The wise man learns most from the humblest and simplest of agents; why should not the wise woman reach a height from the humblest and simplest of tasks? Like many another great step forward, it is so easy, natural, and within everybody's reach that we feel it cannot be true, but so have been all other real advances. We do so much with no excuse save that others do likewise, that when we scientifically analyze the work of a home, we find much that is done in a laborious and spiritless fashion that had better be left undone. This higher kind of management would not only help to eliminate drudgery, but would give time for the introduction of some pleasure, and the planning of right leisure, without which no life can grow prosperously. Leisure means proper preparation for the next task. It means coming in touch with the inspiration that makes for better work. It means the raising of standards so that every worker can come into his own, and will love his work, not simply because he understands it, but because through it he feels himself being raised to higher and higher levels, and knows that he is accumulating those results which alone are worth the best of one's life and labor, a trained mind and body, and a spirit from which one is ever ready to give in abundance.

Our point is that these things may be acquired from the

PRINCIPLES OF DOMESTIC ENGINEERING

commonest of every-day tasks, when those tasks are made to give up "all that in them is," and the *worker* appreciates the value of the contact, and what there is to be had for the wanting.

That "Woman's work is never done," is a kind of accepted domestic slavery from which she must, and will be, *freed*. But from which she cannot escape honorably until such time as she has put her intelligence, her heart, and her ability into service, and shall determine both the amount and the quality of the work of her house, for "Who sweeps a room as for Thy laws, makes that and the action fine."

CHAPTER XI

TIME AND MOTION STUDY

"Let thy motions prove economically productive, sportively free, and pray hug to thy consciousness that great element—Beauty"

In every motion, whether we will it or not, whether one is conscious of it or not, there are to be found three motives that influence and encourage continuously the vital construction, or the careless destruction of Personality—that wondrously complex and creative work of art, which Heaven and Earth bids us build to its use.

The motive of accomplishment, or the doing of a thing in the most effective way.

The motive of exhilaration, or the pleasure in action.

And the motive of Beauty, or the quality of *form* in use.

These three natural efforts are ever ready for expression, and they act and react upon one at every turn. We may learn through intelligent practice to accomplish with greater and greater efficiency, and more and more directness, until there is developed a surprising degree of skill. On the other hand, with little thought of how a thing is to be done, merely the controlling desire of getting through with the task—whatever it may be—not only no particular adeptness is developed, but a certain careless and indifferent method, often slow, awkward and untidy, leaves its impress forcibly implanted upon both mind and body. So also when movement is unnecessarily fatiguing. Perhaps fatigue poison in the system is the most insidious of the human ailments. Certain it is that when one works continuously with little or no pleasure in the doing, ignorant of how best to conserve one's strength, and enjoy each move as it is made in rapid succession, through a feeling of right and free action, *health* becomes a most doubtful guarantee. And as for *beauty*! How few, how very few of us begin to realize that the form and expression of every motion we make, prints indelibly its perma-

PRINCIPLES OF DOMESTIC ENGINEERING

ment effect upon the body, making one ugly, stiff, and angular, or charming, easy and graceful in proportion and according to the kind and quality of each motion made.

With these facts in mind, Motion Study becomes not only an economic necessity for the home, but a technique in bodily action, making for physical, mental and spiritual culture, or—as we prefer to call it—Personality-culture—the development of the *entire* person. While each of these three sides of motion study is an immense and absorbing subject in itself that can barely more than be touched upon in a book of this sort, yet each is so truly important in our consideration of housework that we feel a three-fold light on the subject is essential, even though it be but a faint glimmer of the illumination that must come to each who will thoughtfully practice with such suggestions, and follow the work that has already been done.

Motion Study, although not mentioned as one of the listed principles of Scientific Management, is nevertheless a very large part of the whole system. In fact, it is the working element of each, and the final test of all, for the economics of an enterprise is in the carrying out of an idea, with the material plus the labor or action required to make that material give up its highest possibilities of usefulness. If we can reduce the number of motions in the process, we increase in proportion the value of the material. If also these motions can be made to give in return, health, strength and beauty to the one performing them, motion study becomes the most magnificent tool yet discovered for the conservation of resources, particularly the resources of human life, for it is not yet even imagined how much time, strength and money is wasted in useless motions.

Although it is often looked upon by the unthinking as being a mere means for “speeding up,” modern motion study is rather a result of the realization among employers of men, that the well-being of their workmen is of first and most vital economic value. To “speed” by artificial means, such as a speed-maker, or a machine time-grinder, is clearly bad business and results in loss to both staff and line. The prosperity of the workmen must therefore be carefully considered and every scientific means known, used to make him most “fit” for his occupation.

TIME AND MOTION STUDY

Motion study became therefore one of these scientific means, and while it has always been used in a general way in taking the time of a complete operation and noting the movements over all, for speed and convenience sake, the analyzing of each piece of work into its units, the use of a stop-watch, pedometer, etc., and the training for just the right motions at the right speed, the organizing of one's surroundings into standardized conditions, with proper implements and a proper estimate, not only of each *unit*, but of each result desired, and its relation to other operations in which it is involved; this we find is a matter of recent scientific application. The purpose being that the best conditions for, and the best effect upon the worker may be accompaniments in the making of the best article.

The mere walking about the house in the performance of one's tasks is a point worth considering. After many tests with the aid of a pedometer, the writer found that she walked indoors on an average of seven miles a day, occasionally covering twelve or fourteen—with the attention drawn to such steps and the consciousness of these miles, she has been able to reduce the distance considerably.

With this much of the subject as a background, let us focus our attention upon its scientific relation to the performance of housework and some of the special features taken from the Experiment Station in Colonia.

It has so often been said that housework is made up of such a variety of tasks and so dependent upon the personal note that few, if any, time and motion studies could be taken in a home that would be useful as records or practice-instructions for any other class of home. This is not true if we reduce the task to be considered to its simplest units. There is but one best way of doing everything, just as there is but one best reason for its being done. And if it is true, as it is, that men have found motion study of the highest value, and Scientific Management paying best in repair and special-order shops where because of the number of variables, the waste is greatest; so women will find that in the home, where the variables seem endless, the application of time and motion study will be found to be of all places most profitable.

PRINCIPLES OF DOMESTIC ENGINEERING

Time and motion study means trained movement. It means, as Frank Gilbreth says—"to find and perpetuate the scheme of perfection, by discovering and classifying the best practice, deducing the laws and applying these laws to standardize practice, either for the purpose of increasing output, or decreasing hours of labor, or both," and the writer would add, for the making, conserving, and developing of personality.

The first thing in the practice is to provide one's self with a stop-watch and a pencil and pad, or chart. No records of real value can be taken until one can put the parts of a minute together; until the turn of the hand can be made to mean so much time and so much value. Take for instance, the simple operation of scraping a plate. Try and discover through experiment in time and motion, the best practice for such a task. The result of our work was to find it took about twenty strokes with the ordinary dinner knife to scrape an ordinary dinner plate ready for the dishwater, and then it was not "standard" clean, besides the fatigue, the unnecessary noise, the possible injury to the enamel surface, the bad reflex effect upon the worker of the inefficient movement, and the time consumed which was estimated to be a quarter of a minute. The better way being to have at hand a plate scraper, a piece of bread, or a small soft paper napkin, or doilies, which can be daintily crumpled between the fingers of the right hand, lift the plate with the first and second fingers and the thumb of the left, and drop what will into the garbage receptacle with the first move, then with the paper circle the plate with the right hand, from the top guiding the doily by the wrist around to the top again and down the center and off. This method we found to be efficient, noiseless and safe, carrying with it an educational value in movement and consuming only $\frac{1}{4}$ of a minute per plate, a gain of $66\frac{2}{3}$ per cent., besides having a distinct relation to the kind of dishwashing done and the other related standards that have to do with staff and line. This we found could be motioned in a rhythm of four-four time.

Again, the simple operation of cutting bread. The usual way being to gather the knife, the board and the bread together, find perhaps that the knife needs sharpening, step somewhere

TIME AND MOTION STUDY

for a stone or proper tool, return to the bread and saw many more times than is either good for the hand or the straightness of the slice. A better way being to have a board, with two knives of different sizes encased therein, and a small stone inlaid on either side, hung just at the left of the bread box. In our case there was made a sliding shelf that pulled out to fit it. First motion with the right hand, open the bread box, take out bread. Left, pull out shelf, unhook bread board. Right, place loaf on board. Left, place hand on loaf. Right, take knife from scabbard in board, pass once or twice over stone if necessary, and cut. The sharper the knife, the easier and fewer motions in the cutting, the least crumbs wasted and scattered, and—with half an eye—the straighter the slice. This, like the plate example, gave back about the same ratio in assets.

So with every unit of housework. Each thing studied in its parts, and a stop-watch used for each part, not once, but over and over again, these standardized parts put together, and the process of the whole operation rebuilt in the conditions and the number and kind of movements required, will prove to be not only of the greatest cultural value to the worker, and to housework, but one of the greatest factors in efficient management and the economics of time, strength and money.

While a completed task may differ in the result desired in each home, the separate parts, or standard units of these tasks, is the same, and these it is that are of universal use as records for standard practice. The elimination of waste motions is also not only of personal interest, but a matter of standard practice, for there is the law of movement that action and reaction are equal; if therefore any action is wasteful, that is not the worst of it, one must suffer also from its reaction, for the effect of the waste motion is by this law waste nerve.

Again, the organizing of one's surroundings so that the greatest efficiency may result, is an individual and personal matter, and yet the law of motion and the principles of Scientific Management make much of this as standard practice for all. For whatever tasks in the house are to be done, and whatever are oftenest repeated, should be so organized as not only to have the most perfect form of routing for the material used, but the

PRINCIPLES OF DOMESTIC ENGINEERING

tools, the proper implements, the right equipment, utensils and devices should be as near at the point of need as time and motion study can determine is the least waste.

Kitchen cabinets are suggestive here, and yet at the Experiment Station we have the belief that a more flexible form of organization is for most people to be preferred. To be confined to one spot and to certain sizes and shapes, whether the family numbers two or twenty-two, is distinctly a disadvantage, although it is much easier to purchase a cabinet even at an expensive price oftentimes, than to think out one's own system of routing and organization. In our case certain utensils and materials were stored in cupboards, and only those assembled that were required for the Season, or the immediate size of the family, thus simplifying considerably the cabinet idea, making it possible to have a variety of cabinets, as it were, at various points, when occasion demanded; a pastry cupboard, a work-table, a vegetable shelf, etc. The proper things assembled about the place, best suited to the routing for the special work to be done.

In this way it makes it possible to plan each task ahead, from the center around which it is assembled; keeping several under way at once when advisable. The hand learns just where to move in the dispatching of each subject, and the head goes its way in planning and co-ordinating the different parts, for they should work together by never interfering with each other. In the study and practice of time and motion experiments, both head and hand should be keenly alive to every phase of detail that can be grasped and analyzed; the head *thinking* them out, and the hand *feeling* them out through close concentration, but when standard units have been accepted, when practice has shown the best way, the hand and head should separate somewhat, the head looking enough beyond, or ahead of the hand to properly plan the next step and do away with that nervous tension of trying to plan as one goes, making sudden and jerky decisions; the hand becoming more or less motor minded from practice, prompted constantly by the sense of feeling, and ready to accompany and prompt the head, and follow as it leads.

There is a certain rhythm suggested in the head and hand

TIME AND MOTION STUDY

motion in housework,—which is true of the whole body for that matter;—that we could not fail but note in the various tasks studied.

For instance; in stringing beans, and shelling peas, and preparing vegetables generally, there were found to be some most interesting motions involved. After organizing one's surroundings so that the fewest motions are needed in lifting, preparing and depositing the bean and the waste, and doing this from the most comfortable position, the process of stringing the bean itself was analyzed. Picking it up with the left first finger and thumb in such a way as to bring the stem straight in front of one and in contact with the right first finger and thumb for dissection, turning it at the end of the string for the other side operation, and placing it in a pile ready for cutting, was found to be a unit, taking $\frac{1}{30}$ of a minute in time, reduce to 4 simple motions, and having a count or rhythm of common time. The shelling of peas, on the other hand, could be done to a count of three-four time. Such results as these may sound perhaps affected and artificial to the ordinary reader. The musical preparation of vegetables does not suggest quite the same performance as that of the ordinary scullion, but if one stops to think of the good old Mammys and Marys whom one remembers as singing at their work peeling potatoes and apples and beating the cake to the tunes of their native land, we cannot help but believe that better work was done in that way, and that the therapeutic value of music as lately proven, may be extended to industrial uses as well. But whether artificial or not, this side of time and motion study, and these facts, revealed *themselves*; we were not looking for them,—they just came and we noted them.

So far the illustrations given have been single units of work, and the units of those units, but a complete operation is merely builded from the process and the time taken for each unit, which, assembled together makes the standard practice for each piece of work plus a percentage of waste that will be found to exist, until there is established a very high "scheme of perfection."

Getting a breakfast, even of a simple sort, is an example of

PRINCIPLES OF DOMESTIC ENGINEERING

assembled units. The part that requires the longest time for preparation should be done first, naturally. In our case it was the boiling of the water. The cereal having been placed in the electric cooker the night before, needed only to be carried to the Dining-Room. The fruit also had but to be taken from the ice-box to the table-butler. The table having been partly, or entirely laid while washing the dinner dishes the night before. The Dining-Room at the Station is kept at an even temperature by the use of a regitherm, so that one finds it warm at any hour determined upon for rising. Therefore the process of making ready the breakfast is to open the door, press the electric button, connect the toaster and hot plate, pass to butler's pantry, fill tea-kettle, place on flame, start "James" grinding coffee and while he is busy, cut bread for toast. Fill cream-pitcher from ice-box, take butter, fruit, cream and bread to table, return to "James," place pulverized coffee in a chemical filter paper, drop filter in glass funnel, and place funnel in thermos jug, or pitcher. Take kettle of water, coffee and cereal to table, place kettle on electric hot plate, and keep at boiling temperature if possible, while passing it through the ground coffee. The toaster is now hot, make toast as it is needed. After these motions were carefully standardized and classified, it was found that such a breakfast required less than six minutes for preparation, making ready for four people. This of course could be added to as numbers and occasion required. Eggs are often served from the table stove, and griddle cakes at times instead of toast.

Such an illustration is but suggestive of the minimum-waste-law under which to plan and dispatch,—after each unit has been carefully studied and each part organized—for easiest and quickest results.

Clearing the meals away and washing the dishes continues the study. Making one circuit of the table, placing all dishes and silver on the table-butler, using a paper napkin for the crumbs, arriving at the dumb-butler, placing all upon his shelves and rolling him to the dishwashing machine, there to handle each thing in the most rapid and approved way, makes for practice and for standards that are not arrived at unfortunately in the

TIME AND MOTION STUDY

first few times, but after many, many trials, experiments, time, testing, and comparative records, and then are constant subjects for betterment.

Dusting, cleaning, making beds, putting a room in order, cutting and arranging flowers, making a pan of muffins, or a pie, and in fact anything and everything requiring movement and time in the doing, comes under this heading for study and practice.

The natural question of the housewife being of course: Does it pay? For answer to this, she has but to turn to the results that have followed the work and the books of such men as Frederick Taylor, Frank Gilbreth, Harrington Emerson, and others. While these results are to be found in other industries than the home, it should take but a small amount of woman's natural intuition for her to see that the whole subject of Time and Motion Study not only does pay enormously from many sides, but it is practically and specially adapted to her kind of variables in the work of the house, particularly as it develops a time and motion sense in *all* activity. Making the studies is a long and difficult process, but it can be and is, a most interesting one when done alone, or in groups. Unit records of work should be useful to all as standards; the combinations for the different operations varying as individual desire dictates. Washing, ironing, cooking, sewing, in fact every department of the home, proves itself equally adaptable to this form of study.

There is nothing in the opinion of the writer that will so effectively take that mechanical and tiresome routine sense out of housework, and make each daily act a new, live, interesting, cultural and creative effort, as to thoroughly comprehend the meaning of time and motion study, so that it becomes a *constant* and almost automatic practice, engaging the thought, the emotion and the entire body, until one becomes sensitively conscious of the power and value of that three-fold motive in movement, Accomplishment, Exhilaration, Beauty. The first encouraging skill and speed. The second strength and endurance. The third charm and quality.

CHAPTER XII

THE REGENERATION OF THE KITCHEN

*"The mind has no kitchen to do its dirty work in,
while the parlor remains clean"*

Viewed from one standpoint, the entire home is a Kitchen, for the reason that a Kitchen, as we term it, is a place from which and in which to furnish food, or refreshment, but as "man cannot live by bread alone," so only a small portion of his refreshment, not more than one-fifth of what he requires, enters into his make-up through the sense of taste.

While at first thought we may believe that this part of the house supplies but the coarser and more materialistic substance, and can therefore well be left to chance, or anyone who may prepare it, we very soon realize that the control of the finer and most desired elements in life so rests upon the interrelation and interpenetration of matter, and the intelligent use we are able to make of it, that the only happy and complete evolution of the human being is for him to aspire to the heights of his nature by the method of carrying the better part of himself down and through his entire existence, and all that goes to make him what he is.

While it is well to separate the various parts of a subject for the process of study, when one would *live*, one must be keenly conscious of the unity of life and how intimately one organ affects another. To understand what is meant by the regeneration of the Kitchen, we must study it from a separate, and from an inclusive standpoint in the home. We must touch upon its historic significance; its meaning in the past, and its place in the present. We must view it from the angle of the universal world kitchen, and from the demands for small and particular needs. We must understand it not only from its utilitarian position, but equally from its efficient, its literary, its æsthetic and its poetic possibilities. In short we must *feel* the *meaning*

THE REGENERATION OF THE KITCHEN

of the modern kitchen everywhere, as one felt the charm of the kitchen of old. We must know its purpose, even though we neither see it, nor live in it in the familiar fashion of our forefathers. And let us ask what was the unspeakable charm and pleasure one felt in the kitchen of long ago? Was it not a delightful and intimate touch that one had with every side of the family life? That close administering to *all* the human needs of the early home and its inmates, a family hospitality, activity, ease and contentment? There was just as much work and quite as much unpleasantness in dirt and anxiety, but everybody knew that he must do his share, or the life of the whole could not go on, and each one became so skilled in his part that the work was a source of interest to all. Warmth and comfort was to be found in this portion of the house, not because the cooking went on there, but because the means of providing these qualities was limited and necessity forced them to be valued, just as necessity to meet the demands of our present life is forcing us to revalue our source of supply and to redetermine our relation to our surroundings.

The Kitchen of long ago had the same root meaning it has to-day—"A place in which to cook, or prepare food,"—"To use sparingly," and "To add relish to." And yet how varied has been the understanding of these three main meanings.

Cooking is done in order that food may be better assimilated, but how often do we find it all for naught? Unless the use of food in the body be thoroughly comprehended, the amount and quality required, as well as the combinations needed, the cook's wages and labors will perchance but add to the doctor's bills and to the family discomfort.

Again, how prone we are to consider *economy* an end, rather than the real study of economics. The first interpreted as the result of sparing use, and the doing *without*. The second being a proper method of management that makes it possible to effectively utilize everything that can be made to enrich one's environment. A full return for every investment.

"To give relish to," is perhaps the most suggestive of the three definitions, inasmuch as no food, whether it be for the physical, mental, spiritual, or psychic side of man is assimilated

PRINCIPLES OF DOMESTIC ENGINEERING

to the point of right usefulness unless it arouses the interest of the one to be fed. This it does in a constructive way largely through the influence of flavor, and in a questionable and degenerating fashion by the introduction of factors that but stimulate, overseason, and cater unhappily to the appetite. We relish food when we are truly *hungry*, and instinctively delight in its nutritive value, and not when it comes to us at the wrong time and overpowers, as it were, our sense of desire. How many an one we hear tell of eating his "Three square meals a day," whatever that means; simply because the hour has arrived and it is set before him. A theory and practice that however much it may savor of habit and convenience, hath no foundation in nature.

Reduced to its last analysis, the meaning of the Kitchen is the cookstove, and of the cookstove is the fire. Here truly begins our investigation of this subject, leading we hope to a suggestion of a new order of things just here.

Fire is the basis of civilization. Its power and its control determines man's degree of progress. The common kitchen stove, when pictured as the pivot around which a people revolve and live, becomes truly an instrument of international importance. As a rule we find it the first article to be placed in a house. The one given the largest daily attention, and surely the one having the greatest influence over both the family health and the family peace. In primitive times the great logs that warmed and lighted the fire-place, with its splendid draughts airing the house, made the watching of the fire of real concern to the whole family, but gradually it became the duty of one person to "keep up the fire," merely for its *cooking* purposes; a mechanical draught held the great outdoors in check, thereby doing away with that wonderful source of healthful ventilation, and the operation became a matter of putting in coal and taking out ashes, with all the intermediate worry and work that accompany the wondering of "How is the fire?" and "What more can be baked while the oven is hot?" The latter leading often to an overabundant table, and an overworked woman. The former making it mentally impossible to think in a concentrated or worthy way

THE REGENERATION OF THE KITCHEN

upon any subject unrelated to the condition of the kitchen stove. So that while it was an invention far ahead in many ways of the great open hearth, it carried with it its detrimental influence.

When our work began at the Experiment Station, the first factor to consider was logically this same Kitchen stove, or the source of usable heat. We soon found through practical and comparative tests, that of all the uneconomic systems of housework, that depending upon the use of a coal range, or stove, stood first. Thus, fuel at the present price of \$6.50 a ton, costs a day for the average four-cover range, or stove, 21 cents in a well-managed fire. This of course varies with the days of the week, but our tests were made under what seemed the most perfect average family conditions. Add to this an hour wasted in time and muscle at keeping the fire, the additional waste in the quantity and quality of the finished food, much of which escapes not only to the kitchen walls, but too often to every corner of the house, carrying with it not only the value of the product, but the odor as well, for "every little odor has a body of its own," and in addition the time required in cleaning and removing this wasteful effect; the dreadful and unnecessary heat during a large part of the year; the attention needed that nothing shall be ruined in the process of cooking, and above all the effect upon the woman who must, with her other responsibilities and duties, become a more or less overworked stoker. While many of these points cannot well be summed up as money, the imagination of no one can be so limited as not to be able to realize the waste and extravagance of which the average kitchen stove is the cause, and that the Home Economic Corner-Stone of the Future is centered in the possibilities of the principle of the Fireless Cooker, or the Conservation of Heat and Steam applied in the most efficient way.

Our tests in the fuel of Alcohol proved that while it is a little more expensive than oil, or gas, it has the added virtue of being the cleanest and readiest of flames, a steady and efficient heat that is light and portable in form, and can be used with success and satisfaction where no other fire is possible. A

PRINCIPLES OF DOMESTIC ENGINEERING

home may be well-lighted, heated and practically run with no other medium of heat, its greatest virtue being the cheapness and adaptability of the utensils needed.

Gas is perhaps the sort of heat that serves best some of the purposes of every home. Until electric current is made cheaper, and until we can turn on a sufficient quantity to boil a quart of water in two minutes, instead of fifteen, Gas will be the preferred medium for *short time cooking*, and the most satisfactory in the heating of water, of fireless cooker plates, and in the incineration of garbage, which requires an intense heat for a short time.

But with the entrance of Electricity into the home, the possibilities for the true regeneration of housework begins. It may cost more to "touch a button," or turn a switch for the moment, but in the long run, and for returns given, it becomes the most economic medium of the four heats upon which to base the practical workings of a home. With its various attachments for automatic control, there need be no waste in current when not required for use. It is the cleanest and most efficient heat and light known, and is besides capable in a more or less perfect way of performing every act of housework requiring any continuous power, from the beating of an egg, to the scrubbing of the floor. The use of such power we find the cheapest form of the current. Its translation into light ranks next in expense. And as heat it costs most.

In actual tests repeated many times at the Station, we proved that three vessels of vegetables, containing three pints each, (such as potatoes, beets, and carrots) could be perfectly cooked with no waste of substance, for not more than four cents, and with no thought, or dirt, further than that of setting a thermostat and touching a switch. Again, a roast of a twenty-pound turkey has upon several occasions cost no more than twelve cents to deliver to the platter browned and flavored in the most approved fashion, retaining for the serving every particle of nutriment, and demanding not even a minute's labor in the washing of the pan. That electrically cooked food has a slightly different flavor from that prepared in other ways, is true, but it is far more perfect, and infinitely more uniform. If

THE REGENERATION OF THE KITCHEN

it were practical to have each article of the Menu prepared in the most approved way, then would the home be equipped with every type of fire that has been in use, from the hot stone hole and the hickory coals, to the electric chafing dish that appears as if cooking by magic, no sign of the source of its heat being apparent save a delicate cord which enters the handle, but this is not to be encouraged, for the reason that we are now prone to give too much thought, time and space, to the Department of Eating for the Home's best health, and if too great a variety of fires had to be tended, it would surely have its ill effects, even though the beans and the chop did prove a trifle more to our liking. Hence in the simplifying of this work, as with the other departments of the home, our aim should be to cater to the highest standards, rather than to particular and often eccentric taste. Then may we camp in the woods and enjoy the results of the hot stone, just as occasionally we might eat at a restaurant where the red-hot ashes of the wood, or charcoal, will give up its charm to the success of the chop.

And so we say the efficient kitchen may be equipped with a gas flame and an electric wire, whether it be the great establishment that must feed many lives, or the tiny home built perhaps about one room.

In a charming studio in New York, where every guest (and they are many), feels it both a privilege and a joy to enter, the Kitchen is a part of the Front Hall, both measuring in floor space not more than 5 feet x 8 feet. Here one moves from the entrance door of wonderful glass,—giving forth a faint and charming tone of music as it opens to each who touch the quaint and exquisite knocker bearing the name of the home,—to a gorgeous Oriental rug upon a parquet background, and under a wonderful lamp of original design, deposits his cane and hat upon a spacious old carved bit of furniture,—having that delightful expression of desire to do its part in the real hospitality of the place,—and if he looks about him, he sees nothing in the little foyer unsuited to the environment of the most approved art standards in hall furnishing. He does not know from sight, or odor, that just behind a most interesting four-panel

PRINCIPLES OF DOMESTIC ENGINEERING

space management

leaded and stained glass screen, movable upon ball-bearing rollers, apparently placed that it may receive the light of a large and open window for best appreciation, he would find, if he be permitted to but move one of the panels, a most unusual miniature laboratory. A small hall closet built for the use of rubbers, brushes, newspapers, and "what not," has been converted into a food workshop. Here is placed a model kitchen sink, with a drop coming over and forming a table when needed, but quickly replaced when not in use. Little shelves up and down give ample room for the storing of material and utensils. An approved receptacle for garbage takes care of the immediate necessities. And what is there prepared is routed to the right, with but the moving of an arm, on to a broad and ample window-sill, which receives both the article ready to be cooked, and the finished product. This sill one finds also equipped with a drop wing that can be put to service, and with an additional storage place underneath. With sufficient curiosity he would also discover upon the outside of the window, strongly fastened to the side of the house and easily reached by raising the lower sash, a remarkable ice-box so built as not to obstruct the window in the slightest, and as it is not upon the street, no objection is noted. But the most startling impression is made when this favored guest sees for the first time the Kitchen stove from which he knows as many as twenty-six discriminating men and women are being served in the Studio, with a most delicious dinner of six courses, and he stands aghast when he realizes that the two-hole gas stove, with its small under flame, placed upon the ledge of a door which leads to the back Hall of the Apartment, with merely a hole cut through like a box-office—properly ventilated and protected from the flame,—was the only fire used in the cooking.

Surely as an example of a particular Kitchen, this little Studio space of about six linear feet, practically at the front door, combining all the requirements of a standard kitchen, is prophetic. What may it mean? Or rather what may it not mean? Does such a picture, and it is true to life, not suggest that one's whole attitude toward the kitchen can be changed from the usual utilitarian idea only, to the embracing

THE REGENERATION OF THE KITCHEN

of the useful with the beautiful? For nothing is wholly useful until it includes beauty, nor beautiful unless useful.

The thought in relation to the modern kitchen that we of the Experiment Station tried to arouse, was founded upon two illustrations. That of the Model Pullman Car Kitchen, where space is economized, and the routing element of prime importance. That of the particular Studio, where life may be so full, free, and varied, where beauty and feeling reign supreme, and where no task is undignified if performed within the legitimate scope of the art and creative instinct. A portion of the studio set apart as a place from which to feed the "inner man" may be perfectly managed, to the end that such a "Kitchen" provides not only bread with butter as a relish, but a food that will satisfy the higher man-senses as well.

This leads us to consider for a moment the proper environment for a Kitchen. Its lines, the forms in use, which should be classic and fine in design and the color, or tones of its make-up.

At the Experiment Station were two Kitchens for inspection, or more properly three, for the Butler's Pantry had a Kitchenette distinction. In the one known as the Electric Kitchen, our plan was to interpret a universal kitchen motive in coloring. We tried, with what seemed charming success, to suggest the light of the sun in the carefully blended yellow tones of the walls and draperies, the Sun being the great cook-stove, or fire of Nature by which our food is first prepared. It is said that draperies, or curtains, have no place in a Kitchen, but if a curtain is found to be useful at any window, surely it has its part to play in softening the light and shading the glare in this room as well, letting the worker catch a glimpse of playful color as she glances about. The selection of material and design being the important part, the curtains here were of a scrim as easily cleansed as a towel, and with an interesting stencil study suitable as suggesting the uses of fire and light; graceful torches illuminated in golden tones, formed a border of decoration. Crowning this room was a band of that choicest of all our native Flowers, the Laurel, designed so as to form a most attractive frieze, symbolizing the esteem in which Kitchen

PRINCIPLES OF DOMESTIC ENGINEERING

operations should be held. All the fixtures of the room one could see at a glance had been given careful thought and attention as to form and use, a point too frequently neglected. Every part was in proportion to the whole. Many really beautiful curves and graceful lines, as well as carefully chosen and properly placed utensils made the room as fitting a setting as might be suggested for what is known as the "working part of the house." The old water jug and copper charm brought back into use from the drawing-room. One did not feel that the window seats, with their cushions and flowers, the wall cabinets, or the creamy dull enamel of the paint, were in any sense inappropriate in this elaborately wired and mechanically equipped department.

The other kitchen was more personal in motive. We had talked much of the conservation of heat and steam as the fundamental principle of cooking, and again these same artists who so successfully helped in the carrying out of the idea in the Electric Kitchen, were equally happy in the interpretation here. The walls were painted in the same dull finish; a most delightful shade of pale gray blended from floor to ceiling, as to suggest the faintest of smoke and steam. The woodwork, a dully finished white enamel, was cut in at every small ledge with black, as a utilitarian precaution, as well as to give character to the whole. The pearl-colored scrim curtains, the frieze and the wall panels were traced with a stencil design suggesting fire and iron, and the gracefully and well posed figures of two fascinating cooks turning a goose over an old iron "spit," carried out still further the wall impression and charm.

As long as we are so limited by really ugly Kitchen fixtures from which to choose, the opportunities for æsthetic combinations must be made and jealously guarded by the individual, but there has been considerable progress in the past few years. Since the time of the opening of the Station, for instance, when it was almost impossible to find an architect, or decorator in New York, or in America who had any higher idea of beauty for the Kitchen than a purely sanitary one, a place upon which one could turn a hose. While cleanliness is a virtue; the proper standard of beauty should include it. You may imagine our

THE REGENERATION OF THE KITCHEN

delight when we found two able and advanced artists who responded to the first call for help, and who have since made a particularly careful and enthusiastic study of this part of the house, believing it just as worthy the artist's attention as the consideration of the atmosphere of any other room in the home.

Sometimes the writer questions as to whether the kitchen, as we know it, will ever be regenerated? Possessed of the old charm of the original sort? Or whether it will not disappear entirely, be eliminated from the plan of the house, as it becomes more personal. But this much is certain: as long as life endures, man will have food, and he will make for himself a home. There can be no home without the element of heat, or fire. The serving of food is the main purpose of this domestic unit, and "to cook" is the origin of the word Kitchen. But inasmuch as we can foresee the time when this function shall be determined a fine art, when the equipment necessary to feed a family shall be beautiful in form and portable in simplicity, when the odors of fat and steam shall have vanished and the cook's apron shall have become a forgotten weapon, then shall we be able to "serve" from any delightful spot, or corner, the atmosphere of which shall permeate the home in its life-giving essence. Whether such a room be set apart, or not, the *meaning* of the Kitchen shall be charmingly *felt* throughout the entire house.

CHAPTER XIII

THE EFFICIENT LAUNDRY

"Cleanliness of body was ever esteemed to proceed from a due reverence to God"

"Cleanliness is indeed next to Godliness"

The efficient laundry is the laundry that gets the best results with the least waste in time, strength, fabric, water, soap, etc. The standard being plenty of clean, fresh clothing ever ready and routed through the house to its proper place at the least cost in human effort and money.

Washing is a necessity for the sake of health. The study of hygiene cannot fail to impress one with the fact that the skin requires the utmost care in the performance of its most important function,—the elimination of waste from the body. When we consider that from 25 to 40 ounces of material passes out daily through the millions of tiny openings, nicely arranged over the entire human being, it becomes a grave matter for adjustment to see to it that these gases and small particles are not impeded in their passage. While there is a question as to the dangers of over-much immersion in artificially confined water, there has never been a suggestion, as far as the writer knows, of the unhealthiness of a too frequent change of garments. In fact, this sort of cleanliness is the strongest aid to good health, inasmuch as the skin is made more active by the influence of fresh clothing and the manner in which it absorbs the impurities thrown off by the pores. This principle of course extending to the use of sheets, towels, pillow cases, etc. Even the "feel" and influence of clean linen about the house has a kind of reflex action stimulating to greater activity our "sense" of cleanliness. Hence from the standpoint of human efficiency and the resistance to disease, washing becomes a necessity. Ironing, on the other hand, is more or less of a luxury,—demanding time, strength and skill in proportion to

THE EFFICIENT LAUNDRY

the nature of the fabric used, and the design and importance of the garment. By the latter we mean whether the article has sufficient value in its relation to the home to warrant its cost. For example: why do housekeepers so generally believe that table-cloths are a necessity? When the most exquisite luncheons, suppers, teas, and even breakfasts are laid without them? There seems to be but one excuse for the use of white table-cloths, and that is, custom or tradition founded upon the necessity of covering up, or protecting the table and of assuring a clean surface from which to eat. As far as covering up the table is concerned, a new top occasionally would cost less in the average home than the labor and money needed for the cloths of a year even, and the protecting has already been so well arranged for the other meals that but little more thought and asbestos would be needed to guarantee safety at dinner. The clean and attractive surface from which to eat becomes then the vital issue. How can this standard be maintained at less cost than the purchase price of linen covers and their upkeep?

At the Experiment Station we estimated that to assure good conditions, at least two table-cloths a week were required. These could rarely be purchased for less than \$7.50 apiece, and if used constantly would last hardly more than a year. The labor in spreading and folding them three times a day, and in keeping them spotless amounted in low figures to \$20.80. A total in the year of \$35.00 for only a fairly attractive cover, as against doilies, or small coverings, which when properly selected last longer, cost less, and require much less labor of not a fatiguing sort.

Table-napkins were also considered from an efficient standpoint; a linen one per person costing in the course of a year, if changed once a day, \$6.20, besides the care and anxiety of keeping them in order. As against paper ones, which can be purchased in large size (Dennison's paper towels make excellent napkins) costing per person per year, all of 93 cents, and changed three times a day at a cost of \$2.76 per year. These figures are worth dwelling upon for a moment in order to determine whether in one's standard, or ideal of the home, we are really getting what we pay for in each department. Towels

PRINCIPLES OF DOMESTIC ENGINEERING

create waste
and rags in at least three-quarters of the cases in which they are used, are more efficient when made of paper, and require no washing.

Again let us mention a certain "combination" or undergarment that has been quite generally worn until lately. This required in time and motion study but a very few minutes to wash, but fully half an hour to iron, thus making the cost in labor per year for the wearing of a simple ruffled garment \$18.30. The initial cost of \$3.50 each, bringing a total of \$28.80. An amount that would make the woman with a carefully made budget conclude she might with economy revel in silk combinations at \$6.00 apiece, that would require no ironing and but minimum effort in washing. The first idea then in the efficient home laundry is to cut down the wash, not by doing without clean clothes, but by the substitution of paper where possible and by using only such fabrics and designs as require the least effort in cleansing, little or no ironing, or cut in such a way as to be practical for the use of a mangle, no starch, and no materials that require close, careful and long time attention. The washing estimated, planned and determined upon, the dispatching of it is of next consideration. This means standardized conditions and standardized operations. Given plenty of fresh air, water, soap and sunshine, the process of washing becomes a more or less mechanical one, the object being to get the water through the texture of the material in such a way as to carry the soil with it.

The rubbing and pounding with the hands, and such crude instruments as stones and the washboard, have made it quite impractical to consider the long time application of water in proper motion at boiling temperature. The modern machine, however, shuts the clothes in a compartment, the hotter the better, where an emulsion of soap and soft water with live steam plays upon the garments in such a way as to loosen and rid them of all soil in the quickest and most easily dispatched way. The machine we found to be most effective at the Station, is built upon the oscillating principle in such a way as to squeeze the wash in the angle and corners of the copper kettle at each turn.

Perhaps the simplest way to describe this laundry is to step

THE EFFICIENT LAUNDRY

into it, in words, and after looking about for a moment, actually do a week's washing.

In the first place, it is not in the Basement where poor air, poor light and poor drainage are usual, but on the ground floor just off a pleasant porch, covered with vines and overlooking the garden. Large ample windows shaded with white scrim curtains stencilled with a border of water plants in pale Blue, give plenty of light and air on all sides. The woodwork is white dull enamel stencilled with tiny water jugs, and the walls are a wonderful tone of atmosphere, blue in three shades from surbase and side wall to ceiling, stencilled in the panels with graceful classic figures of women draped in blue and white and washing with long-handled bells in quaint and curious old kettles. On the floor is a pale-blue velvet rug, which is rolled back when the machine is running, although the tub has never been known to spatter, or spill, if not overloaded. An old-fashioned combination laundry seat and table, finished in white and stencilled in blue, stands in the ironing end of the room, together with an adjustable skirt and shirt board that locks up against the wall out of the way, and comes down at the touch of a button to the height desired for sitting comfortably at one's work. An adjustable chair arranged to fit this board, and both finished in the same white with the little stencilled border of blue water jugs, makes a picturesque furnishing against a background of white and blue bannisters. Just under the stairway is a cupboard big enough to store the sleeve board, clothes baskets, soap, etc. The electric irons being pocketed in the skirt-board, come into place as it descends, ready for use with the turn of a button.

At the other end of the room are three stationary tubs placed at the right height and also finished in white with the border of pale-blue water jugs, and a little white cupboard on either side giving a sort of drain board at each end of the tubs. In one corner is to be found a sort of laboratory cupboard with glass front through which can be seen a variety of glass containers labelled: "Ammonia," "Bling," "Borax," "Alcohol," "Muriatic Acid," "Oxalic Acid," "Common Salt," and all the other aids for the removal of stains, and ease in washing. In

PRINCIPLES OF DOMESTIC ENGINEERING

front of the tubs stands the electric washing machine and just between the washing and ironing sides of the room is a fascinating little table with small drop shelves, all decorated in the same blue and white, and holding a 24-inch gas mangle run by an electric motor.

With this much in the way of environment and atmosphere, let us proceed to accomplish an old-time day's work in about two hours, and the whole week's laundry of seventy pieces (barring the sheets and spreads which have gone to the public wash) in four hours.

First, boil the water. In this case it is done with a gas burner under the metal tub, the water having been put in with a hose connection from the hot-water faucet of the stationary tub near.

Not having this, we would advise installing a small tank over the tubs, with gas burner under, so as to have plenty of *boiling* water, that does not have to be carried. Soften the water with a little ammonia, or lime water, and have melting some best quality soap chips. Poor soap destroys the clothes and makes them yellow. Add about a pound of chips to a tub of water. While the water is boiling, or before, sort the clothes, take out any stains, and soak any that are particularly soiled. When all is ready, fill the electric tub to its prescribed capacity, follow the mechanical directions, and start the motor. Either run hot water through the clothes that have been soaked, or put them through the wringer so as not to lower the temperature of the suds. Run the machine, preferably half an hour,—and while this is being done, the stockings may be washed in a small hand machine, or any particular pieces of flannel, or silk, not suitable in the boiling hot machine. The line may be put in order, or other things may be attended to. Before taking the clothes out, run the water in the stationary tubs for rinsing, stop the machine, and lift each piece from the hot water with a small wooden fork, or pair of tongs, start the wringer and feed rapidly and carefully until the tub is empty. Rinse the clothes with a long-handled bell, and keep the hands out of the water as much as possible. While the rinsing is going on, another tub full may be started, if the water is not

THE EFFICIENT LAUNDRY

too dirty, by merely adding more liquid soap. A wringer between the tubs, with a motor attached, makes it easy to pass the pieces from one tub to another. Washing in boiling water, three good rinsings, and plenty of fresh air and sunshine, make boiling and bluing unnecessary. As it is easier to wash garments in this way than to iron them when starched, there seems to be no particular virtue in starch. There never was any, except the surface gloss, the fashion of stiffness, and the protection from too easily soiling.

The two hours is nearly up, and all is ready to be hung out to dry. While the drying is going on, empty the tubs and replace everything in order; rest a bit, or have luncheon, and then bring in all the pieces that can be ironed in the mangle, and as many others as are in a fit state of dampness to iron. Turn the mangling table into place, light the gas, put up the leaves, let down the clothes horse, shake out, fold, or straighten the pieces, start the motor and begin to iron them. With a little care and practice, the mangle will really do most excellent work. In the course of an hour all the flat pieces will be folded away and the real ironing may begin. Let down the skirt-board, place the chair in a comfortable position, connect the iron, and in an hour or two all should be out of the way, ready, after a little airing, to route into place.

In comparison with the old way of hand rubbing, wringing, bluing, boiling, starching, sprinkling and ironing, modern methods as effected by machinery, make home laundering a simple and non-fatiguing operation. The time is cut to less than a third, and no part of the work is in any sense hard labor. Although it is true there seems no particular reason why it should remain in the home, save for the fact that public laundries are not yet efficient in protecting the fabric, or adjusting the price of other things in proportion to sheets, shirts and towels. Co-operative laundries in each community would be an immense help if properly run by a scientific manager and guarded by effective regulations. A separate washing machine in each home, of expensive design, seems like a waste, when in most cases it is used but an hour or two a week. On the other hand, an electric machine costing a hundred dollars pays for itself in less than a

PRINCIPLES OF DOMESTIC ENGINEERING

year, where the family has been in the habit of having a washer-woman at the tubs for one or more days a week.

Cleanliness is a virtue and a necessity, but cleanliness at the expense of anyone's youth, health and happiness, is a questionable virtue, particularly when it is no longer essential that such a standard of drudgery shall be a part of the household.

We owe it to ourselves, our companions, and our Creator, to make all labor efficient and all work, a joy. "Cleanliness shall then indeed be next to Godliness," for the effort of keeping clean will be a pleasure as well as health-giving to everybody concerned.

CHAPTER XIV

FOOD, ITS PREPARATION AND VALUE

*"And homeless near a thousand homes I stood
and near a thousand tables pined and wanted food"*

In the midst of the personal prejudices of the food-faddist, the academic complexities of the food chemist, and the available products of the food manufacturer, the modern housewife finds it no easy task to intelligently provide from day to day a uniform quality of proper nourishment in the simplest and most attractive form that will adequately meet the varied demands of those who differ as to age, size, temperament and occupation. The kind of food that will insure the greatest resistance against disease, and encourage the most efficient and effective action of mind and body. For it cannot be denied in the face of statistics and experience that modern life is unnaturally and unnecessarily burdened with physical and mental disabilities, the natural result of a too rapid civilization perhaps, but more directly the inevitable outcome of wrong standards of living, a disorganized base of control, and artificialities generally, both social and individual.

Of necessity the cry for a balance must be "back to nature," but just what does that phrase mean? It assuredly need not mean the usual picture of the "simple life" in all its crude unattractiveness and discomfort; that form of getting back to the roots and the rocks in actual reality, but rather a modern incorporating of these solid primitive principles into harmonious and scientific understanding and use; following life's processes through nature's way of working and expressing and *adding* thereto all that man can include of beauty, convenience, and luxury. Let us not try to go "back to the soil" in the old way, but let us also refuse to *attempt* to go back, holding solely to the laboratory route; where the simple sign-posts of nature have been substituted rather than crowned and beautified. A labora-

PRINCIPLES OF DOMESTIC ENGINEERING

tory civilization that would conquer nature is incredible to the soul of woman. Life is her first concern, and the essence of life has never yet, nor can it ever come out of a laboratory. The very breath of the Creator, held in spirit, and delivered from moment to moment as need and condition determine, will ever evade the most ambitious grip of the scientific searcher.

The function of woman is to feed and nourish the race. This function she can perform but improperly unless the food supply is in some way under her control. We cannot return to the period when practically all the food of a family was raised within the radius of a square mile or two, nor would we sacrifice such progressive standards of sanitation, hygiene and distribution as have resulted from the evolution of the big food industries. These things are valuable. There is besides no particular reason why every home should forever remain a miniature food factory for "fifty-seven" or more varieties, but there is great reason for each home-maker in the land to consider intelligently and intimately the kind of food substance that enters into the life or death of the family under her care, and know well what she is serving, why she is serving it, and how it should be served. Three points of view in which there is to be found scarcely a woman living who is thoroughly satisfied as to her knowledge, unless she possesses little and wants less.

Let us ask at the outset, as we did in the work of the Experiment Station: What is the matter with our food supply? Why is it not maintaining a higher standard of human strength? How best can a family be fed to insure a maximum degree of health and prosperity at minimum expenditure of time, strength and material? Three simple questions for each of which, every woman should strive to find the answer even though it never be final and satisfying.

Firstly, we are suffering from an over-refined class of foods known as denatured products, that might more properly perhaps be called un-natured, a class of staple articles from which much, if not all, of the life substance has been subtracted, contaminated, or sterilized, including all patent process flours, meal, sugar, rice, etc.

Secondly, we are in danger from what is known as adulter-

FOOD, ITS PREPARATION AND VALUE

ated and misbranded foods. A class into which has been introduced foreign substance synthetically compounded for the purpose of preserving, altering the consistency, or changing the appearance. This type of so-called food includes all chemically manufactured flavorings, much of the "canned stuff," all "bleached" and "dyed" products, a great deal of the meat supply, a dangerous quantity of the soda-water fountain and Bar compounds, and all foods that have in any way been arrested in their natural process of fermentation by the introduction of a form of benzoate of soda, formaldehyde, or any such preservative chemical.

Thirdly, our lives are made uncertain from moment to moment by the unsanitary condition of food. This does not mean "wholesome dirt," the soil of the earth exposed to pure air and sunshine, but rather the germs, poisons, microbes, and the insects, and excreta of the unclean. The foul state of food kept too long, placed in unsanitary containers, or exposed to the gases and influence of antagonistic substances.

There are but two sources from which life in normal condition is maintained—air and food—and as the first is an important form of food, we may say there is but the one great source, that of food alone, and as such it is not only of fundamental and material importance, but capable of study through analysis and expression that centers and expands in spirit itself.

What should one eat to be strong, for no man liveth who does not wish for strength of some sort,—“a strength that conquers muscle.” As we do not live upon what we eat, but upon what we digest, or assimilate, it is the process of digestion that becomes of first importance. A very simple and appropriate lesson in dietetics came to the Experiment Station during its formation, centered in what was called Brown Rice, a name given to a natural, whole rice, unpolished, uncoated, and unbleached, by Mr. Alfred McCann, to whom we are obligated both as New Jersey Club women and as individuals interested in a courageous and able campaign for better food. In his opening address which was out of doors owing to the number of people listening, he picked up a handful of earth from the garden and illustrated therewith what many of us had learned

PRINCIPLES OF DOMESTIC ENGINEERING

in Chemistry, but without attaching the real relationship; the fact that it was composed of approximately fifteen elements, oxygen, carbon, hydrogen, calcium, phosphorus, potassium, sulphur, sodium, chlorine, magnesium, iron, fluorine and silicon in mineral form, which were totally unfitted to nourish the human organism, but all required in the building of animal cells. In fact not one element could with impunity be left out of our food as a whole, or of the original and particular combination of each separate article of consumption. The brown rice was mentioned as a natural product from which nothing had been taken and no element added, in distinction from white rice. And entire wheat, with its advantages, rather than white flour from which nine of the essential elements required for proper digestion had been removed in the process of milling. He went on to say that wheat was the staff of life and the universal food for man, for the reason that it contained in vegetal form the same harmonious balance of these fifteen elements found in the earth in his hand, and again in the perfect animal organism, and that to leave them out of our diet, or unduly combine them through ignorance, or intent, was risking the most precious rock upon which life was anchored, that of health and well-being, and to throw away even the least bit of the water in which a vegetable was boiled, in fact not to consume it *with* the vegetable prepared was a dietetic sin.

Those of us who had studied Balanced Rations in weight, bulk and percentage of protein, carbo-hydrate and fat, had given all too little thought to this most vital subject of ash, or base, as these elements are called, spending hours of time, efforts of strength and an over-abundance of money preparing bread, cake, pastry, boiled vegetables and meats, cereals and sweets from which the life essence, the very substance that makes for assimilation and digestion had been extracted or unbalanced. No wonder we asked ourselves—*Is this efficient feeding?* Does it pay to spend one's money and one's self preparing food that not only does not give strength, but that undermines the constitution through the absence of these salts demanded by the organism for the strength of the bones and the solid structure, the physical basis of the cells, and for the encouragement of live

FOOD, ITS PREPARATION AND VALUE

circulation and regulation of the blood and all the secretions of the body? Clearly the home-maker must provide a natural, unadulterated, clean diet if she would give her daily attention to the building up of a strong and healthy family, not a weak and diseased one. Inasmuch as adulteration, or the introduction of foreign elements is quite as deadly as denaturing, for the reason that the system has to use up strength in combating the inappropriate substances, eliminating them as best it can, generally by overtaxing the weakest spot; for a preservative, a synthetic compound, or a filler not only must be cast out, because it is not life giving, but it disorganizes the whole natural process of digestion, by getting in the road, as it were, and stopping or diverting the normal movement in the alimentary tract, using for its deadening effects the very secretions and organs that should be required to act only upon life-giving foods, thereby lowering the tissue tone, reducing resistance, robbing the body of its vitality, and weakening the entire bone structure. We *now* know that foreign and non-assimilative substances introduced into the system not only injure all the organs, but indirectly affect the finer nerves that unite the mind and soul with the body.

To feed a family in a safe and sane way, the first step should be to educate the taste to the real and simple foods as nature provides and matures them, untouched by the commercial hand of man except in so far as is necessary to remove the outer, or unedible chaff, or shell, and grind, press, or dry and pack and distribute in clean and orderly fashion.

Appetite is a wonderful guide to one's needs, but an ignorant, uncontrolled or perverted appetite is a human disgrace. When the family realizes that much of the food that is now prepared at the expense of the entire household is *dead* and dangerous in character, the taste for elaborate desserts, spongy white bread, and anemic-looking cake and rolls, will gradually change to a more normal appetite, for that which comes straight from Nature's own cookstove. For a very large part of the work of the Sun is to prepare food for man. Storing up its life-giving heat in the vegetable world, for future use. Does it not seem a little presumptuous of us to think the results so incomplete?

PRINCIPLES OF DOMESTIC ENGINEERING

Cooking originally meant caking, or putting into cake form for more ready handling. It was and should be a process of gently continuing the action of the Sun through artificial heat applied by a baking or steaming method, expanding and softening the cells, but *not* breaking them. There are three kinds of expansions. The expansion of air, of liquid, and of the more solid part. All three should be given ample opportunity to take place in an even, gentle, and not too rapid manner, and the cells should be acted upon only by the condensing of their own moisture, avoiding the adding of water to any food that can possibly be cooked in another way. Prunes, beans, peas, etc., can be soaked in water before cooking until they have taken up all they can hold, when they can be put in a crock and baked with no water. It might be safe to say that nothing should be boiled. Even an egg is best prepared by pouring boiling water over it until it is sufficiently coddled to make it palatable. The boiling of food not only tends to extract from it the essential salts, the fats, and other properties, but the continued application of heat to the body of boiling water tends to break up the cells of the food into an atomic form very difficult, if not at times impossible of utilization by the animal organism. Therefore to bake all foods that require cooking at all in a covered utensil in the oven, in which has been placed a vessel of water, or in a paper bag, a fireless cooker, or a form of Bain Marie on top of the stove, is the scientific way to cook, but the *least* cooking done, the better. Life-giving foods should not have their life destroyed by too long, or too great exposure to intense heat. Sterilized foods are classed as dead foods, not to be used except in the absence of the real thing. To a certain extent the system can and will use them, but at the expense of the tissues and cells from which they draw the life elements that are lacking in the food. The object of the salts is to neutralize the acids of the end products, and as the body is incapable of assimilating inorganic substances, the salts, or the base of our food, should be organic. This brings us to a discussion of meat versus vegetable diet, and the meaning of protein, for while it is essential that the system be supplied with sufficient protein, it is a grave question as to whether it should

FOOD, ITS PREPARATION AND VALUE

be furnished in animal form; second-handed animal organisms made out of the dead carcasses of other animals certainly do not appeal to one's poetic sense and is a custom of feeding questioned by *common* sense.

That most complex and almost undefinable substance called protein, is not confined as many housewives believe, to meat, fish, eggs, cheese, milk, nuts, etc., but is found in due proportion in each article of diet and in all forms of life. Indeed it is the life-fiber of all. The tissues of all plants, fruits, nuts, cereals, and vegetals of every sort contain an abundance of protein that when not robbed of the base that makes for proper assimilation, or broken and destroyed in the cell from improper cooking, conveys to the system all it requires for health and strength, and in the easiest manner in which it can be assimilated. Every element for nutrition whether mineral or organic is found in the vegetable kingdom; salts of potash, soda, iron, magnesia, manganese, substances analogous to fibrin, albumen, gelatin, acids, etc. The animal form of food holds nothing for the human body that is not better supplied by the vegetable kingdom. If we took our meat alive and ate blood and bones, there would be less objection from a physical point of view, but when robbed of the life-giving elements and vital salts, no class of food so quickly putrefies and turns upon its victim as animal food, and the dangers are worse when preservative is added as is the custom of many butchers. Is it then worth while to spend large sums of table allowance money for meat even though custom and a false appetite demand this waste? It is little less than ruinous to child life, even if adults can endure the strain for a time with the accompanying disorders, such as rheumatism, nervous indigestion, liver and kidney trouble, etc., for the stimulation produced by a meat diet, and falsely taken for strength, must sooner or later be true to itself and no longer stimulate. There remains just one other point that the writer would like to discuss with the modern housewife before taking up the subject of what is worth preparing and using in the shape of food. Fully realizing it takes a little audacity and courage to express a conviction contrary to all accepted custom and belief, she nevertheless cannot doubt but that one's habitual use of

PRINCIPLES OF DOMESTIC ENGINEERING

yeast is the most common dietetic sin of the times. To preach temperance to the weak and then calmly and sanctimoniously eat and give to them the kind of bread usually served, is an outrage against human life. Fermented bread is but little better than fermented liquor, except that its action is slower; less apparent and more respectable, but in truth it is one of the great *causes* of intemperance; its respectability therefore is hypocritical.

All corruption has its beginning in fermentation. A form of decay takes place before the health of an organ is affected. Foods and organs decay through fermentation, chemicalization and electrolization. The first is the result of the breaking of cells. The second, of the introduction of foreign and therefore non-assimilative substances. And the third, when a more positive condition overcomes a negative one, and a galvanic battery is established. Organisms are able to appropriate rightly, or wrongly, but the spirit of life manifests according to law by which one must abide, to have construction and incorruption. The form in which life-giving food must be supplied is cellular, unbroken cells, and as cells develop from a center or nucleus, the very disposition of each cell, either hereditary, acquired, or inflicted, has a peculiar life-giving quality when conveyed in food. As the object of all food is to create, preserve, and develop life, so the life value of all food is determined by the absence of all tendency to decay, crystallize, electrolize and the presence of unbroken cells carried to the system without chemicalization. For as the human body develops through *chrysalization*, not *crystalization*, and as all minerals, or "chemicals" have an habitual form in the latter,—even sodium-chloride—they are unfit for food. The system can handle them only by using considerable energy in ridding itself of such crystals and their effect.

Before deciding what foods should be eaten, let us inquire into the process of digestion, which in the animal is in three forms and three localities, airiform, liquiform, solidiform, the first in the head, the second in the stomach, and the third in the intestines. As food is properly combined in these forms and its value given up and *effectively* acted upon by the juices or humors of each locality, proportionate life therein is maintained.

FOOD, ITS PREPARATION AND VALUE

The adaptation of these juices is by virtue of the kind and flavor of the food offered. Foods delivered to the system that have the most material to be acted upon, are to be chosen. They may be flavors of an active, passive, or moderate quality, such as are normally craved for the upbuilding and conserving of an undecaying organism; an organism that can hold its vitality, proving "Its seed is in itself."

Instead of dividing foods into protein, carbo-hydrate, and fat, which is more or less confusing and misleading, let us take the natural division of gum, oil and fiber. All foods are a combination of these, which together with natural sweet, convey and manifest the spirit and the law of life through the creative, preservative and developeptive principles in solid, airt-form, or liquid substances. The hidden life value in food is in the amount of cleansing, healing, or strengthening quality conveyed in bitter, sweet, or stringy fibrous form. Foods carrying the highest life value are classified as perfectly ripe undecayed fruits, and nuts, ripe full-sized grain and other seeds and eggs, fresh juices and oils of fruits and seeds, milk, honey, herbs and vegetables. The fiber supplying life to the muscles, the oil or liquid to the glands and circulation, the cells or seeds supplying the cellular system, which is practically the *whole* system.

In the preparation of unfermented bread, crumbly lightness should be the aim, *not spongy*. The ordinary basis for all such bread is about three cups of *whole* wheat flour, or meal, to three tablespoons of olive oil and sufficient cold water to spread it or make it into cakes, but care should be taken not to add too much water. This bread can be varied in a hundred ways, using all kinds of grain, or seed meal, introducing different kinds of nuts and fruits, flavoring and eggs. The foundation should always be a meal made from an entire grain, slow ground; the latter, because a slow method of milling is safer than the present quick process, for the reason that rapid milling generates heat and causes a chemical change to take place in whatever is being ground. This added to the bleaching process, the robbing of the outer coatings,—or bran,—and the inner kernel, or germ, the powdery form and the almost

PRINCIPLES OF DOMESTIC ENGINEERING

complete sterilization that makes it possible to keep ordinary flour almost indefinitely, suggests a more than risky food product in white patent-process flour even without the contamination of yeast. Oil is used for the crumbly lightness in any proportion preferred, and care should be taken to beat in all the air possible even to making the bread in an airy place. There is a method, however, of pumping air into bread instead of using yeast, advocated by Dr. Danghlish, but untried as yet by the writer. Unleavened bread should always be baked in the form of cakes, or crackers, gems, waffles and pancakes, and not in thick loaves unless Dr. Danghlish's method makes this practical. These breads not only take less time in the making, than the leaven bread, but keep fresh longer, and never seem to tire the appetite as do the conventional customary receipts. These with fresh tree-ripened fruit, fresh milk and cream, salad, coddled eggs, nuts, dried fruits and vegetables give all the nourishment required through a simple process of preparation. Cooking, when properly done, should be an aid to digestion by softening and expanding the cells that would otherwise be impervious to the digestive juices, carrying out a further ripening process, but Oh! how often it but carries the poison from which the race is slowly dying, through physical inefficiency, particularly when left to the unintelligent, uneducated, common-senseless average servant. Even at best it has its disadvantages. What is known as the albumen—a form of protein—is coagulated and made less digestible, while a part of the organic salts are changed into an inorganic state, so that every care should be taken that cooking may do as little injury as can be guarded against, through the most complete understanding of the application of principle and the operation of the right method. As a rule the housewife wastes too much time in the preparation of food-stuffs. She should be skilled in the use of wholesome fruits and vegetables; the steaming and baking of such kinds as require any cooking, and the making of an endless variety of salads, unleavened breads, cakes and unfermented drinks. The most successful menus are those that contain only three or four varieties of food, and those in season and perfect. The regular, conventional course dinner consisting of a dozen

FOOD, ITS PREPARATION AND VALUE

or more dishes, is in truth a coarse and disorganizing custom, an abomination and a contamination for the individual and for society, laying a foundation for all kinds of digestive troubles, colds, pneumonia, etc., the result of retained poison. Simplicity in diet should be made one of the most important factors in education. Not by any means should this be understood as eliminating the æsthetic, or the beauty element of the table. In fact more time can be devoted to the serving and the standard of the service generally, if less is consumed in a complicated kind of cooking that requires even a foreign language as a menu to further carry out the spirit of uncertainty. One spends hours in preparing and cooking at length a "made dish" that in most cases would be far wiser for health and efficiency's sake to serve its separate ingredients, in as beautiful a shape as possible, but in natural form, giving every care to the value of flavor.

One of the signs of bad cooking is to have the flavors, or odors, escape in any way during the process. A kitchen from which emanates such odors as justly take on the name of smell, is either presided over by ignorance, or provided with inadequate equipment. When it is more fully realized that assimilation and good digestion not only wait upon appetite and good food, but upon one's disposition, state of mind, and psychic condition, generally, more thought and attention will be given to the flavor, the beauty, and the vital charm of the food, as it brings together the family at table.

Nutrition and vitality are dependent upon the humors, or juices and secretions of the body,—upon their consistency and free flow at the right moment. A beautiful and luscious peach makes the mouth water; the charm of the fruit, before it even enters the mouth, is having its effect upon the flow and quality of saliva that is making ready to receive it. A portion is taken, and the three salivary glands on either side of the mouth pour six tiny streams of essential liquid about the tongue. If the peach is properly masticated—that is, chewed twenty or thirty times—and consciously mixed with a flow of saliva from the back of the throat, from five to ten times at least, the mechanical operation for perfect digestion is well started. If to this

PRINCIPLES OF DOMESTIC ENGINEERING

is added from start to finish the appreciation that the airiform quality, or *flavor* of the mouthful during mastication, is what feeds and makes for better brain and nerve condition, and that the enjoyment of its flavor, or pleasure of the morsel in the head is necessary for the proper flow of secretions all along the alimentary tract, the right beginning in how and what to eat has been made. For this same peach entering the body as a little piece of fruit is going to be walking around as *you* to-morrow, but it cannot without leaving ill effects in its wake, unless the right start has been made *in the head*. The chewing, the reflex movement, or deliberate mixture of saliva from the front of the palate, so that the six streams may play properly, is the part that each consumer must play *consciously* in order that the juices of the stomach be made to flow, and proper action or churning there, be the occasion of the flow and action of the juices of the intestines, so that after all, if the peach digest, it is about fifteen parts you, to one of peach even at the start.

How to eat is one of the prime knowledges that should be practiced continually and handed down to the child at the earliest possible age. To acquire an appetite for any special thing is a common experience. How much easier is it to acquire a right and natural method of eating? Instead of that, we refine our foods until not only the substance is gone, but a pap-like consistency makes chewing and all it means a forgotten art, and our food passes with too great speed into an unprepared and inefficient stomach paralyzed to a degree. The result is "The Great American Disease" Nervous Indigestion. We have given no time to feeding our nerves through the natural avenue of the air channels in the head. There are certain foods that have little value except while in the mouth, and are apt to rather disturb the other localities of digestion, such as the radish for instance, and the garlic, but tremendously useful for the nervous system and the feeding of the air glands.

Again, food for the stomach from which the circulation generally is supplied, should be in liquid form. How important therefore it is that the mechanical action in the mouth should reduce it as nearly as possible to that state from which the blood can be rightly supplied. That it may not become a poor, tired,

FOOD, ITS PREPARATION AND VALUE

overworked organ only improperly fulfilling its function, for "The stomach is the kitchen of the soul." It does its best to overcome the sins of the mouth and to make ready the right conditions for the lower digestion in the intestines, but the poor appendix, the guardian of this area, is telling a sad tale of abuse higher up. It in turn does its best, standing on watch at the valve, and pumping and lubricating as heroically as it can, that the overcrowding of material may be made to pass safely up the great colon, but how wickedly often it is made to succumb and go to the wall, leaving the poor third digestion hopelessly in the dark. If one ate only when hunger demands, when the mouth waters at the thought of a crust, and then masticated and fed the brain and nerve as it should be fed, all the other automatic processes of assimilation would be safe and orderly, and the blind appendix would stand as exquisite aid to the end. As a general rule people eat too much, but as it is not always wise to make sudden changes, the safest and most pleasant course to take is to overeat if we will, of the lighter class of foods. Meats, fish, rich sauces, cheese, fried things, fermented breads, pastry and liquors should give way to vegetables and whole grain cereals; these in turn to fruits, olive oil, and honey. If one finally overeats at all, let it be of the class which includes fresh ripe berries and fruit juices. If eaten alone these will be found to produce the least ill effect.

Physical and mental efficiency, absence of that tired feeling, and colds, and a good circulation, are the best signs of proper nutrition. The mere following of fashion in food has not only played havoc with the human body, but with the pocketbook, and with the home-maker's peace of mind.

How often we hear even the devoted mother and wife say: "I do not object to any of the work, or responsibility of the home, excepting the constant three meals a day and all that they mean." In the last part of the phrase is the trouble. "All that they mean" in the demand of custom and the individual requirement of her household. If it but went for health and strength, there would be a very different feeling, but she usually knows that all is not well, and her soul is unsatisfied. Yet to suddenly serve to an unprepared family an efficient

PRINCIPLES OF DOMESTIC ENGINEERING

breakfast, even ever so beautifully, would probably start a domestic riot. Imagine how the average modern husband would respond to an early morning meal, even elaborately served in his boudoir, of two unleavened cakes, a cup of orange juice and honey, a slightly coddled egg covered with a little slippery elm bark perhaps, and a bit of yarrow or quasha root to chew instead of a cigar. Would his temper be right for business that day? Even though we are sure his mind and nerve would be, provided he could be made to enjoy and properly partake of his breakfast.

Again, a luncheon served to the children of baked potato, skins and all, covered with the best of olive oil, and eaten with unfermented bread and nut sandwiches, and a bit of fruit, would hardly satisfy the boy and girl who have been accustomed to meat, soup, fish, a salad and pie, all at the same meal, and yet surely the first menu would make better bone and muscle and healthier boys and girls, but we must first come to the conviction through education, before we can gracefully bring our husbands, children and guests to a table prepared in this fashion.

Yet it should surely interest every woman in the land to help on the great crusade for health and efficiency in which nothing is more basically important and readily controllable than food. Of course proper rest, exercise and mental attitude have their place, but all these are put in order and greatly depend upon food. Efficiency means getting the most ideal results through a method in which there is the least waste. Can we say as a class, that the feeding of our families, or ourselves, is on an efficient basis? Even where health appears to abound, a weak spot is usually an accompaniment, and after all, a body is only as strong as its weakest organ. Can we not, therefore, become more positively efficient as women, responsible for the feeding and nourishing of the race, by first understanding real food values and the actual dangers of our present food supply, second by knowing and practicing with ever increasing skill, the method of cooking that makes for highest life values, third by serving the food in such a way as to charm and delight those who partake, and fourth by becoming consumers of high un-

FOOD, ITS PREPARATION AND VALUE

derstanding and thereby regulating the evils under which right existence is not possible? (the commercial practice of denaturing in order that food shall meet the requirement of the local market, and keep at least for a year as shipped, the dangerous adulterating with chemicals totally unfit for food, and the unsanitary exposure to contamination.) It is the consumer, the woman of the home that must regulate these matters. Neither the market men, nor the manufacturers should be expected to supply aught save such products as meet the demand. The women must become as "wise as serpents and as gentle as doves," if they would guard their loved ones from the ravages of the present wild combinations in our "daily bread," and rightly and honestly perform their first and most sacred function as intended by the Creator—the function of conserving and organizing Life.

CHAPTER XV

SYSTEM IN HOUSEKEEPING

"System, . . . an organized body of truth, or truths, arranged under one and the same idea, which idea is as the life or soul that animates all those truths"

How often do we hear the good housewife declare with that well-known air of personal satisfaction: "You know system is everything." "I have a regular time for doing each thing, and I see that nothing interferes with its being done at the appointed hour." Visions of having to rise in the morning "whether or no," of eating and sleeping by the clock, of cleaning because of its being cleaning day, rather than from its being actually necessary, and in short carrying out rules with a mechanical regularity that instead of making for real efficiency and the right sort of atmosphere, has a deadening effect, in sacrificing inclination and mood to a cut-and-dried schedule and routine. The æsthetic little home-maker, on the other hand, will say: "It is impossible for me to be systematic." "It's no use; I've tried and tried, and if anything, I grow worse." "Just the day I set apart to do some particular thing, is the time of all times that I must write a poem, practice a new piece, or see a friend. Oh! I know I never can keep house if I do not learn to be systematic, but I begin to despair."

Now what is it that these two types of home builders are after? Is it not a smoothly running establishment, where pleasure, comfort, ease, leisure and peace are easily possible? Each believing system to be the essential element, but with what strange conception; instead of life first, and system as a comprehensive plan for its expression, it is system that would control the whole. Again, one frequently meets the woman who having had her share of home discouragement, vehemently responds: "Don't talk system to me: I had it drummed into me at home until I felt myself a regular machine. I never did any-

SYSTEM IN HOUSEKEEPING

thing worth while until I got away from that monotonous grind." And there, seems to me, rests the difficulty. [System is not the routine it appears to be, and is so often mistaken to be; but something far bigger and more complex than the average house-worker has been able to put into practice. One instinctively recognizes its importance, even when restricted by the understanding of its meaning. But let us see if there is not a way of making it both an inspiration and a guide to the sort of home we would all have, were our hopes and desires reduced to the last analysis.

System is merely a working basis in which some one idea, or purpose, leads all the others of the same group. In other words, a whole plan, or scheme, consisting of many parts connected in such a manner as to create a chain of mutual dependencies. Any method of arranging in orderly sequence, with due co-ordination and relative subordination of the several parts. Order becomes the result, or the harmonious arrangement of the parts. The design of an intelligent agent, or the suggestion of such design. And method, merely the way of proceeding, or the process of arriving. Rules, meaning certain requirements and regularity the even disposition of acts. There may, however, be no suggestion of purpose in regularity, hence it is less intelligent and more binding than order. Indeed there is much regularity without order, and the most perfect order is often secured with the least regularity. The same may be said of system. One frequently finds a regularity in system that is destructive of the value of the whole. But most so-called Systems, unless one is conscious of the live principles involved, tend to make routine workers. A monotonous and habitual doing of the same thing day after day in the same way. There is a restlessness and a creative side of the human mind and heart that wearies of, and is hostile to the habit of routine. On the other hand, most people find it all too easy to drop into a rut and do things from habit induced by circumstances. As George Eliot said: "That beneficent harness of routine which enables silly men to live respectably, and unhappy men to live calmly." However, like all other elements, in its proper place it is invaluable, giving the day a balance that makes time dependable, but when mistaken

PRINCIPLES OF DOMESTIC ENGINEERING

for System it becomes a lifeless and uninspired master. Enough has been said to realize that any system worthy the name should stand for and include a sort of philosophy of life. There is no particular merit in housekeeping, no matter how spotless the premises, or perfect the appointments, unless it is done with the highest human purpose in mind of which the worker is capable. The motive must be strong and fine, for Motive after all is *King*. One desire leads in all undertaking, whether we will, or not. One star guides our steps. Does it not behoove us then to hitch the housekeeping wagon to the right star; to the one idea which shall assimilate all the others in the domestic system? Determine what shall be the motive, and think out a plan of procedure, for to go blindly or indefinitely along,—for instance, believing table-cloths and linen bedspreads and shams are to be preferred to a little money left over at the end of the month for pleasure or cultural purposes, an entrée, to an hour's musical or physical practice, and a clean house at the expense of health and amiability,—is to be weakly led by an artificial system which dictates much falseness in its premise. These things and their like may be most important to the individual. The point is to let us be sure that they *are*, by starting from the right principles and intelligently following a natural system founded upon true elementary propositions, and the constructive laws of nature, for an accepted principle becomes a power, the cause from which all our acts proceed; an ever-present, active, fundamental cause that of necessity produces certain results. The Bible says: "Take no heed of what ye shall eat, or what ye shall drink, or wherewithal ye shall be clothed, for the Lord knoweth ye have need of all these things."

It is, however, very positive in first laying down the law, that one shall "Love the Lord with all thy heart, with all thy mind, and with all thy soul, and thy neighbour as thyself." This becomes then the governing principle, and results in action.

The principles in home-making, to which I believe we should devote ourselves, is the family's best development—including the prosperity of each individual member. The children should have no more permanent consideration than the parents; the older people than the young; the public or society than the

SYSTEM IN HOUSEKEEPING

hearthstone; wealth than health, or appearance than reality generally—both are necessary—all should make up the growing home. We boil down the bones to their very essence. We should learn to as skillfully boil down the usual systems of housekeeping to the very juice of right principle, for the standard is as we make it. No two homes need or can be alike any more than two persons, but the principles and the system upon which they are operated may be as like as the food we eat, the air we breathe, the wood we burn, or the water we drink. In fact, there is nothing that makes for so wonderful and beautiful variety of effect, as to center the cause in the deepest, truest, simplest and most natural of elements. Instead of Mrs. Grundy dictating what one shall do and when one shall do it, the very heart of nature prompts the move, because all psychological law is bent that way and right effects must follow right causes. Flexibility of system is the result; live, smooth, active, efficient management is developed. A clean home, a healthy home, a beautiful and a happy home, become the controlling principles, and a *system* whereby these parts may be made to co-ordinate and subordinate themselves one to another, as the occasion demands, is freighted with a greater object and promise than the idea that the home is builded upon the work being done on time by demand, and in the traditional way.

In such a mechanical routine wash-day truly takes on the atmosphere of "Blue Monday" and Saturday becomes a day that cries out for rest. Splendid! of course it is to keep up to time and be regular in the common necessities of every-day living. The important thing is that the *thought* should be right in the meaning of the days of the week, so that each becomes a creative period productive of housework *development*, instead of housework routine. Just before the opening of the Station, the writer realizing that much of the cost of living and the dissatisfaction in the Kitchen was the result of the passing away of the old ideals and the need of a new point of view, wondered how best the idea of professionalizing housework and home-making could be practically demonstrated as to be understood by all—because of the common-place standard—while she,

PRINCIPLES OF DOMESTIC ENGINEERING

with others, had the feeling that this could and must be done, it was very vague as to just what plan would be acceptable and make for advancement and simplicity, rather than any added burden and complexity. Everywhere the woman seemed to think that the profession of home-making had too many "variables" to be unified, or classified. No general system could possibly apply because each home was a law unto itself, with human nature as the controlling factor: two points—of all others—that cried out as most needing such a system. After a particularly long evening's discussion upon the subject, a meditative night and a thoughtful day, she was passing through the house and in so doing noticed a number of pamphlets and papers among the evening mail, on the receiving table. Leisurely turning over one of these, she was attracted by the title: "The Principles of Scientific Management. Taylor." This was in February, 1911, just after Mr. Frederick Taylor's famous address before the Society of Mechanical Engineers on "The Efficiency Method." She opened the little book, reading here and there a phrase, and verily it seemed like an answer from above. Here were the very elements and factors put together and into practice, and made to apply to the same number of variables that the evening before had been discussed as not practical; even that all-impeding thing, human nature, came into its own through the application of psychology, and was happy to take its place in the industry of production. Why was this not just what we were looking for? A system devised by man for man's pursuits, but equally applicable to woman, and prophetic of a unity of purpose. Before the evening was over, she had read the little book through twice, with a most critical mind and a determination to discover if there was anything involved therein that would not apply to housework. It all seemed to fit beautifully as far as it went, but more was needed. Hence to find Mr. Taylor, to learn more, to see the operation of the system, and to discover from whence other light might be had, became the effort of the rest of the season. The Experiment Station opened in June, and by that time a real foundation had been laid in the application of Scientific Management to the home, which has steadily grown in value and proportion ever since,

SYSTEM IN HOUSEKEEPING

until most of the leading efficiency experts of the country see the revolutionized *home* of the future, as well as the shop and great corporation. After all, there is nothing new or strange in this system. The same kind of Management has been used since the beginning of time by most and various successful enterprises, but it was supposed to be the result of the talent of some great personality, opportunity, or mysterious circumstance. Good managers, like good actors, had to be born, not made. We now know through the careful mastering of a definite technique, they *can* be made, if but a tendency be born. Herein is the hope of the housewife of the times. She who no longer is schooled in mother's ways, raised in the subject and looked upon as a person of talent and standing, if she succeeds. The "tendency" for home-making is deep down in the breast of nearly every woman in the land, if she could succeed in fully realizing her life's purpose in that field of effort, but with housework condemned to everlasting drudgery, scorned and pushed upon the shoulders of the most ignorant of workers, a hundred years behind the times in theory and practice, absorbing one's entire life, and giving in return so precious little for all the time, money and strength devoted to it, is it any wonder she has turned—when finding herself no genius in the art—to what has seemed more fertile spheres of action?

Scientific Management is the return-home-call to Nature's own. In its application to the profession of home-making is to be found every answer to the work-a-day longing of the human soul. It is not simple or easy, but it is worth while, for it gives big return for every serious effort made, and effort is the law of life. While the writer believes every woman interested should read Mr. Taylor's books, and while she was enormously helped by his further masterful instruction, for the purposes of housework and the more definite and simple use of this system, the twelve principles as laid down by Harrington Emerson are the ones to be discussed in this Chapter, as best fitted to the feminine mind, in the developing of domestic engineering and household technology. They are, however, founded upon, and harmonious with, the four great basic and underlying principles of the father of this Science—i.e.:

PRINCIPLES OF DOMESTIC ENGINEERING

- 1st. The Scientific way of doing everything.
- 2d. The Scientific selection of the workman.
- 3d. The Scientific training of the workman.
- 4th. The intimate, friendly co-operation between the Management and the Workers.

The First making for science, not rule of thumb. The Second, for harmony, not discord. The Third, for co-operative development, not "machine" workers. The Fourth, for maximum output, in place of restricted output, and the development of each man to his greatest efficiency and prosperity.

While, as Mr. Taylor says, there is no new or startling fact brought to light in this that was not known to someone in the past, Scientific Management does not necessarily involve any great invention, or the discovery of new facts. It does, however, involve a certain *combination* of elements which have not existed in the past, namely: old knowledge so collected, analyzed, grouped and classified into laws and rules, that it constitutes a Science, accompanied by a complete change in the mental attitude of the worker as well as of those on the side of the management, toward each other, and toward their respective duties and responsibilities. Also a new division of the duties between the two sides, and a co-operation to an extent that is impossible under the philosophy of the old management. And even all of this in many cases could not exist, without the help of mechanism which has been gradually developed. It is no single element, but rather this whole combination that constitutes Scientific Management.

So it is with the twelve principles of Mr. Emerson. It is the combination of them all, applied to each undertaking that produces the results. For convenience sake, we will list these principles and their application to the subject of this Chapter, and outline how they may affect the whole standard of housework.

12 PRINCIPLES

APPLICATORY

1. Ideals. One's aim, idea, object, or purpose in Home-making and in each of its sub-divisions. The clear conception of the meaning of home, and the practical possibilities of realization. A plan of organization to produce this "ideal."

SYSTEM IN HOUSEKEEPING

2. Common-sense and Judgment. *How it is to be accomplished. Consideration of the resources—of all sorts—the responsibilities, the regulations, and the realities.*
3. Competent Counsel. *The best available information and instruction on all sides. The study of theory and the comparison of practice. Good advice and suggestion. In short, general and special education.*
4. Discipline. *A positive and permanent carrying out of the plan that has been adopted. The following of certain rules that have been laid down for the common good of the individual and the group, and the harmonious compliance with natural law.*
5. The Fair Deal. *To live and let live. Fairness and freedom in all things. The element of justice tempered with intelligent understanding and co-operative sympathy. The each for all and all for each idea, and the encouragement of every such spontaneous response.*
6. Records, reliable, immediate, accurate. *The keeping, gathering and making of all records that may in any way simplify the running of the home. Books, bills, checks, receipts, card indexes, score cards, catalogues, addresses; in short, all and any information pertaining to the house, the family, or the individual member.*
7. Planning and Dispatching. *Next to the first principle, this one is perhaps the most important. Here is where Time and Motion-study count. Proper routing and purchasing. A knowledge of *what, why, and how*. The use of instruction, and the general head-work that makes for production and the easy running of the home.*

PRINCIPLES OF DOMESTIC ENGINEERING

8. Standards and schedules. The quality of work is considered in this element. The skill and art sense with which it is realized. The difference between schedule and dispatching is that the former is a bigger and more definite outline; the latter the immediate accomplishment.
9. Standardized Conditions. The construction of the house, the furnishing, the equipment, utensils and devices. The materials and tools generally are associated with this principle. The environment, and the status of the family and of each member thereof. The static condition of all things considered, which by the way does not stay put for a moment, but is ever progressing toward the perfection which is never reached but "ever becoming."
10. Standardized Operations. The way of *doing* things. Action and movement. Its quality and its cultivation. Through this principle not only good work may be attained, but personality may be developed into its very flower. Greater and greater skill. Higher and higher reflex result.
11. Written standard. Practice Instructions. It is the business and desire of all professions and industries to give to the world the result of their experiences, research and inventions. Why should it not also be so with housework? History and records of home-making would be quite as valuable to humanity and civilization as that of any other phase of life.
12. Efficiency. Reward. Just and healthy appreciation of all effort. "When this great principle of reward is woven into an efficiency struggle, it pushes irresistibly upwards. The form it takes is not essential, but if it is disregarded, even the best weary of well-doing," says Mr. Emerson.

Anyone who cares to give careful thought to these twelve principles and all they include, cannot fail to realize the vast-

SYSTEM IN HOUSEKEEPING

ness and importance of their meaning. They may be changed, far better applied, or more clearly illustrated, but the fact remains that they are to the profession of home-making, what the multiplication-table is to mathematics—a standard of fact and a system of operation that alone insures and encourages the most rapid growth compatible with one's intelligence. To master these twelve principles and to thoroughly digest their meaning, and act upon them, is a guarantee that home-making will progress economically and productively. It may be slowly and with many discouragements, but once comprehended, one can never neglect or forget them. They are as fine seed sown in fertile soil. The natural tendency will be to mature.

The Conservation of the Home is clearly the business of the Modern Woman, and Scientific Management is we believe the only comprehensive, executive plan for her to follow. The only *technique* for the proper accomplishment of this end is to assiduously practice with these organized elements of success, applying them not only to the home and family, but to her own individual life. Perhaps the greatest field of production yet to be opened is the systematic application of Scientific Management to the personal life of man. Its possibilities here are incalculable.

CHAPTER XVI

SKILLED LABOR

"Labor broad as the earth, has its summit in heaven"

Among the many thousand letters that have come to the Housekeeping Station, the following is a characteristic sample of a number received from house-maids who are in actual service. Although all states of dissatisfaction are expressed, from the natural discontent of having had too much done for them, or rather, the result of unwise privileges—which is a common mistake—to the most heartless severity; this one has been selected, because it bespeaks a medium sense of the situation, even though the writer seems to feel her particular *misfortune* in the kind of mistresses selected:

"MRS. FRANK A. PATTISON:

"Dear Madam:—I read in the Bkly. Times the other morning how you and some clubwomen are trying to solve the servant problem. And it is about time some you ladies, have thought of the servants. I will tell you how solve the servant problem, as I am one myself and have had several experiences with some family and if some thing would be done for us who have to slave in house-work. They are some who gives us more work than we should do and we never get a minute's rest. If should happen to see sitting down when you really get through for the day which might be about nine in the evening. They have all ways some thing for you to do. I do think we should have a few minutes to rest as any body else. The other things are for instance if they have any thing for thir meals and thurs is nothing left you have to go with out any thing to eat after a hard day's work, what do think about that. Your simple treated like a little poddle dog that's the way you get treated. I dont think it should be done we are human begins and made by the lord You are not to share any thing like at all. Only in the kitchen from the kitchen to attic probly not a decent bed to lay your tired bones on. You are not even to recive your friend in the house for instance. Where I am working I have to received my friend on the moving pictures as I am twenty-four years old. But at the same it is not a right place to receive your

SKILLED LABOR

comany, and are many girls that have to do that You are not even allowed to talk or laugh unless it is above a whisper. And if you should laugh loud, you are told it is not your house. You are simple treated like if you were nothing. It is no disgrace if we have to work for others. But ther should be a law where we would be treated better than we are. It makes a girl discourage some times that you dont know what to do with you self. And to have less hours and more time for our selves and then it would makes us feel better when we are consider something. And if you want to go any where you have to beg before you get. What life is it for any body to live like that if they were spoken in unkind way it would hurt feeling terrible. So I am sending a idea so you can solve the problem. I don't mean they are all the same. I never struck a good kind lady yet. I hope you could published it in the evening Journal some time this week so I can read the answerd or what you think about it as I will very interest in it. I favor with Woman Suffarated."

Sent by A. M.

We cannot help agreeing with this poor girl that "there should be a law." Perhaps not belonging in the statute books, but at least in the social order. A custom and standard that would regulate the hours, the treatment and the work of house-servants. Never, since the beginning of the world, have private employers been safe and humane masters as a class. The joy of having somebody to "cuff and kick," somebody upon whom to throw the burden of the day, somebody who will look up to one in admiration, fear, or humble need, has forever been a temptation greater than human weakness could rise above, and so it has become a necessity from time to time to make public questions of the kind and form of private relationship between employer and employee, and settle the discontent by law or through organization.

The time is here when the servant girl should have the thoughtful, careful, business-like attention of economists, psychologists and educators generally, that the mistress and maid problem may be solved—as it can be—with advantage to both employer and employee for it is a question not only of human concern, but of fundamental social and national importance. Even though a very small percentage of people employ servants at all, the standard of housework, and therefore the operation

PRINCIPLES OF DOMESTIC ENGINEERING

of the home generally—the family demand and the supply—largely depend upon the status of the few who do employ them.

While we have a wonderfully live interest in home economic education spreading rapidly over the country, those who are graduated in this course are not our house-workers. The schools and colleges contribute writers and lecturers on the subject from a variety of sides; teachers and institutional managers, or those who make it a partial occupation or avocation. The student of engineering goes into “the works” and learns how to handle every part of the machinery, proving his knowledge by completing his education in practice. He learns to master the situation step by step until finally he is given responsibility in management and naturally directs a plant of his own. Even so it should be with the house-worker. After graduation she should go into a home and not only do the things she has learned to do, in actual relation with the family, but she should have the practice of meeting responsibility, by being the only one upon whom the running of the house depends. A month here, or a month there, as cook, or house-maid; a year somewhere else, learning to meet all kinds of domestic emergencies and to supply all sorts of domestic needs, is surely a sane and practical program for the would-be home-manager, which position most women expect some day to suddenly be called to fill. The old way of training the daughters by looking at the mother’s ways and habits, not only does not work any more, but it is unscientific in the extreme, furnishing at best but a rule-of-thumb method that falls from under, when the laboratory, or real principle, is applied; and in point of fact the daughter finds the study of the daily duties about the house too monotonous, menial and unattractive generally, to hold her attention through this means, so that while we have a large number of educated home-economic students who must earn their living at some business or other, and a very much larger demand for house-workers than is even numerically met—efficiency playing no part—they are not doing housework, simply for the reason that it is unstandardized and unorganized and does not appeal to them as a bearable occupation.

A business class of men and women for housework purposes,

SKILLED LABOR

means the creating of a demand for skilled labor. In order to develop such a demand, it must be first proved that it would be economic in practice. While everybody knows there is no element in industry so costly as cheap and ignorant labor, the housewife frequently goes so far afield in methods of management as not only to be ignorant herself, but to pay high wages for ignorance in others.

If enough people could be persuaded that to keep the windows, or floors of a house clean, the furniture or metal polished, the clothes spotless and mended, the rooms in order, and the cooking healthfully and economically attended to; that the medium of experts in these various requirements positively pays in dollars and cents, and at the end of the year would give a margin,—on the principle of supply in electric current, or gas for which you only pay for the actual time in use,—public offices would shortly be opened to supply skilled labor for all home needs in every community where servants are now kept.

The skilled servant—and there are many of them—would find herself, or himself, infinitely better off if employed by such a bureau or corporation of labor. Contracts would be made with the head of the bureau, as with the manager or superintendent of a responsible institution, and not with the workman as now. All complaints, orders and suggestions would be referred to the Head. A choice as to the personnel of the workman would be recognized whenever possible, and the particular requirements of each client, or customer, would be considered, although eccentricities in the manner of doing work would be discouraged, as there is but one best way of doing everything. Hours of service could readily be adjusted as regards all cleaning, renovating, laundrying and mending. Nursing or child-attendance where there are small children, would have to have special attention to guarantee the supplying of an attendant at the moment required, that it might be as regular and dependable as the milkman's visit in the morning, or that of the baker or the ice-man.

Professional playmates could be furnished at short notice; young girls who would help children to play in a constructive way, skilled in telling stories and who would encourage little

PRINCIPLES OF DOMESTIC ENGINEERING

dramatic or kindergarten efforts. Again, there is no particular reason why a day nursery should be confined to the children of the poor. A children's house, or room, might be a part of every community, where a child could be sent with profit to the little one. This might even be established in connection with the Bureau.

The professional child nurse is already with us. The difference would be that she need not necessarily have her three meals and sleep under the same roof with her charge. She might, or might not, as the need determined. But it should be possible for any mother requiring help in the care of her child, to be able to call a skilled person when needed and feel reasonably sure that the child would be better off for having come in contact with such a helper. Something she cannot feel assured now with the average nurse-girl.

As to cooking, serving, and dishwashing. The many varieties of devices of the fireless cooker type, thermos and thermal bottles, jars, jugs, and dishes, heating and cooling cabinets, etc., make it a practical plan to have meals prepared hours in advance and kept perfectly well until the time desired. Even the serving can be minimized by helping one's self from the nearest possible point of placement, which may be at the table, or just outside in the butler's pantry. This would adapt itself to a buffet form of serving, or the using of a table and dumb-butler as incorporated at the Station. Ingenuity and invention has not begun to spend itself here, and fashion also is ever ready to lend a ready hand.

But the elimination of the waitress is not the idea. One could engage half a dozen, or more, if one chose, skilled to requirement, even to the extent of providing music and the dance between the courses, or anything else that might meet the custom of society. They would not be servants, however, in the old sense, but professional aids in service. Skilled workers in this particular department, living under their own roof as professional nurses now live, feeding themselves, and coming to their post as any other business girl goes to her occupation.

Where the least service is demanded, the dishes could be

SKILLED LABOR

placed in the dishwashing machine, to await the coming of the morning assistant. The food in the food cupboard, or ice-box, and the table made ready for the next meal in the shortest possible space of time.

You may say: why so change our present habits and customs? Why the confusion of all these different workers coming into the house, and the expense of establishing such a corporation of labor, and paying the prices that would be demanded by skilled people? Our answer is: we are already paying unwarrantedly high prices to labor, for the privilege of living in our own homes. Wages, rental, heat, light, food, breakage and waste bring the average cost per hour for the general housework girl from twenty to thirty cents every hour in the day, proving that from fifty to eighty cents an hour might be paid with profit for the skilled labor employed for a limited number of hours.

The expense of establishing the Bureau would be readily borne by any capital awaiting investment, just so soon as a proper demand arrives, or by a co-operative stock company of those interested to have such labor available. Even by a City itself, where one is found to be sufficiently advanced and progressively governed.

The confusion and uncertainty of the different workers coming into a house at different hours, would be infinitely less than that now in vogue, of following up each servant to see that he or she does the work as one would have it done, keeping their tools and premises in repair, supervising and supplying the servants' table, adjusting their differences, taking the moral responsibility of their welfare as members of the family and the psychological strain of living day after day and month after month in the house with the same inefficient and unrelated social element. If one is lucky enough to have them stay, which is the most confusing point of all, inasmuch as constant changing of servants has become a necessity, statistics from intelligence offices having convinced us that the average length of time a servant stops in one place is two weeks. So that a matter of change is not so much a choice as a necessity.

There is a "Servant problem" with us, that must be met

PRINCIPLES OF DOMESTIC ENGINEERING

by servant and mistress alike. The latter by the home-maker studying more closely the science, the art and the practice of managing a home on an efficient basis. Studying and applying domestic engineering in all its branches, and realizing that skilled labor is merely *intelligent labor*, that can accomplish in shorter and shorter time, a higher and higher standard or quality of work, under progressively better conditions and more economic rates, when summed up over a long space of time. For whether it be the scrubbing of a floor, or the washing of a window, if it is done intelligently, under the best standard, it will not only look better and involve less waste, but will actually keep clean longer. The floor that is cared for in such a way as to minimize the need for scrubbing; that has fewer people constantly tramping upon it and is so constructed as to draw attention to its beauty and order, does much to reduce the shiftless, careless, sloppy manner of working so common among the ordinary class of houseworkers, where one frequently finds girls who think it necessary to take to their hands and knees and scrub the entire kitchen with strength and vigor at least once a day, thereby proving that much time is wasted in service of this sort. In many homes the floor of the kitchen might be magnificent, if the price of such wasted labor could be in time applied to the original cost. And so this comparison holds all the way through. The results of the experiments at the Housekeeping Station in this kind of comparative cost with every department of the home, has proved that the saving of ignorant and unnecessary labor and waste will easily pay for standard conditions and equipment throughout.

And as to the servant, instead of our being her enemy, as she at first believed "The Station" to be, its effort is her best friend and future salvation, for it encourages the use of the finest housework equipment and tools that can be made, and the necessity of having the most perfect kitchen arrangements that can be installed. It would abolish all drudgery and long hours of labor by condensing into an eight-hour day at least,—through scientific management,—all that is essential of the sometimes sixteen-hour demand. It would give freedom and self-respect to the general housework girl who suffers now

SKILLED LABOR

under an unjust social stigma, by giving her a home of her own, where independence, or a certain community club-life might be enjoyed, such as is now the privilege of the trained nurse, and by releasing her from that ancient and slave-life form of *contract*, that brings her into the family by the month with all her time mortgaged. In other words, it would eliminate from society that unfair caste distinction existing as the Servant-class, classify the houseworkers as to their ability, and merit ushering into other fields those not adapted to standard practice in this line of employment, and bring into being a class of skilled business-like workers going to their special appointments, as a clerk to his office, responsible only for the particular work assigned, and in a position to earn far more money than when confined to but one house. The only need being to prove as can readily be done by most of the servants now so employed, and many outside the class who would work in this new way, that there is at least one thing that he or she can and would like to do better than anything else, and so by showing efficiency in this chosen subject and honesty of purpose, make a new future on a skilled labor basis for the most important, the most all-inclusive, and the most beautiful occupation in the world—Housework that is home-making.

CHAPTER XVII

STANDARDIZATION

"The mind's the standard of the man"

While the word standardization is a formidable one and somewhat technical in sound, its meaning is extremely simple. It merely implies knowing what to do, understanding why it should be done, and being skilled in how best to accomplish it. There have always been those who have practiced with infinite pains to make perfect the way of arriving at the highest available standards, and yet conditions are never quite the same, and a new start with new ideas and new material is ever one's privilege and duty.

To get results, to "make good," to meet every emergency, and to make an opportunity of every obstacle, is the only road to achievement.

"To get away with the goods," as the saying goes, is a temporary and transient, if not a questionable, kind of accomplishment.

The scientific and standardized effort to master every detail of the situation, to start at the bottom and carefully study each element in the process, working in the appointed way until a new and better manner of procedure is evolved and finally combining all the best ways of the various parts in an effective working unit, with each factor definitely placed, is the one lasting and profitable method that makes the man, as well as the world, move on to bigger things. And without scientific practice in how best to move on in this rapid age, one is certainly going to be left behind in the race sooner or later, discouraged and hopeless, if not in worse plight.

One of the difficulties with the home, as we find it, is its lack of a definite aim. It has not gone ahead as swiftly as other enterprises with which it is associated because of the absence of a sufficiently forceful ideal. It has been the victim of a fast

STANDARDIZATION

developing business world that has taken the better part of house labor and initiative, and left in turn a serious depression in the scale of available home-capital and comfort.

The American girl can no longer trust to luck at not seeing the time when she need cook a dinner, or clean a room, for she will probably have to do both, and frequently, before labor and capital are at peace, and the "servant problem" becomes a thing of the past.

Does it not behoove her, therefore, of all ages to face the situation with some effective tool at her command, such, for instance, as we find the system of Scientific Management? Apply the principles of Efficiency to every department of the house and bring it up to the standard of the best known practice in each line.

While it may not be the business of every woman to run a home, the study and use of Efficiency standards is unquestionably of the greatest service in *any* occupation, or even in one's personal movements and thought, for after all, the mind makes or breaks the life, and the habit of thought that is standardized to orderly and constructive action, operating around a well-conceived ideal, and moving always upon definitely defined principles, with a clear knowledge of the parts and their relation to each other, is well worth in any field any effort it may cost.

The standardization of the home begins when one has a psychological vision of just what a home should be, and what it is possible to make it in each case. It is the realization of the kind of atmosphere and surroundings that will unquestionably produce the best citizens and the happiest folk generally. It is the practice of moulding conditions in such a way as to make for unity and mutual love in each day's happenings of the family life. This, as the great purpose, is brought about not by chance, or even by instinct in these days, but by holding fast to the idea that it can be done if one only knows how, and then by being willing to "knuckle to" and learn, by doing.

A persevering and ambitious man of ordinary talent has been known to build up a great and prosperous business industry,

PRINCIPLES OF DOMESTIC ENGINEERING

starting with but five dollars. Simply by knowing what he wanted to do and having an absorbing reason for doing it, and being keenly anxious to learn the how of each factor from the very first step, making every dollar guarantee a full return for its use.

The same motive in action is applied where the efficiency system is used to standardize a home. The scientific way of doing everything, and the scientific training of the workman, is brought about by the scientific selection or adaptation of the workman, and then a perfect co-operation of mind,—or management,—with body,—or application.

The home has gone too far afield in its belief in tradition, its artificiality, its hectic desire for luxury, and its absorption in detail, at the expense of a great definite motive rooted in the real and vital purposes of home and individual life. We must go back to the source, deep into the heart of things, and find an ever new reason for daily routine, if we would not have it sink to the deadly level of unlovely happenings. Fortunately this can be done, and, by that definite plan of action known as Scientific Management. A system,—to sum it up again,—that has gathered together all the elements of the past that have made for success in human undertaking, classified and analyzed them, proved their worth in practice, and simplified them into a working form for the common understanding of the multitude, so that ultimate success may be the fate of the many, instead of the highly gifted few. It is a study that makes for the development of thought and industry, including, as it does, the whole man in contact with every variety of material. A knowledge of values, and the purpose of every undertaking, must follow closely in line with all effort to standardize conditions and operations. Looked at from this studied point of view, one can readily see that the Spring house-cleaning time of the modern home would take on a somewhat different meaning. To change the atmosphere, by adjusting and renovating the environment, has always been the allowed purpose of this annual *feast*, but to create a new atmosphere, standardized to the highest individuality of the home, and brought about by seeing to it that conditions, equipment, material, operations and results

STANDARDIZATION

are harmoniously adjusted to the real welfare of the family and the community of which it is a part, is a performance that cannot safely be left to the happening of once a year, or to the sole guidance of one member of the household, but must for the sake of progress and well-being be the joyous function of the entire group. A delightful and perpetual operation.

Art and instinct tell us that everything one touches and everything one uses and sees, *should* be beautiful. There is no more reason for an ugly, or unrightly made tool or household fixture, than there is for the building of an ugly chimney, or the modeling of an unlovely vase. Use and beauty should not occasionally go hand in hand, but should be inseparable household elements. Art will not have come into its own, until it is made not common-place, but generally appreciated; until it means an inspiration to everybody to create what ought to be from what is. Until it is a working factor in every man's life. Until we all become artists, and the home is moulded into the permanent and beautiful cradle of modern art. And as the child moves from its cradle enough to ask the why of life, the simple philosophy of the home should be able to answer, and it *will*, if proper thought is given to the great why of each separate step. The reason of things is not "because," and "just because," as many women think, but will be found through feeling deep down in the heart of the happening, where the soul knows by contact—and not through foolish argument. And here again the home should play a most important role, for nothing ought to be incorporated and nothing therein done that cannot stand the test of *why*. To "flounder in reasons"—No—but rather to know all sides by placing one's self in the midst and intuitively knowing the truth to the uttermost parts.

A thought as to the philosophy of washing on Monday, would give many a woman a happier and more peaceful Sabbath.

And how should the home be run? Science has told us in almost every detail. It is no longer an imitation standard of the way others do it, but an original output, based upon research and standard practice instructions. Every theory and working idea that is developed in the world at large, is avail-

PRINCIPLES OF DOMESTIC ENGINEERING

able for the home, for every one of these goes from, and comes back into some home. Our mission as home-makers is but to adapt them to *our* use, and add as we will of our own. But even after science has told us how, there is a business-like manner that must be added; a form of order and movement that is pregnant with confidence and ease, with time enough for the proper completion of each detail and a true vision always of the one thing at hand to be achieved. These four essential corner-stones of the house mean a roof builded for the blessing of Heaven. For after all the "Best laid plans of mice and men" miscarry, when "God disposes." A devotion, therefore, to the Plan of Him who made us, and a willingness to abide by whatever comes, knowing it is for us the very best thing, makes the four sides hold together in an everlasting structure of infinite worth, operating through standard human practice and standardized to a sense of an ever-present religion, that cannot fail to prove itself a shelter in every storm. As Emerson says:

"Let religion cease to be occasional; and the pulses of thought that go to the borders of the universe, let them proceed from the bosom of the Household."

As family sentiment broadens to community betterment and local clannish sentiment into national fellowship, so will the home become not only the haven of peace for the individual, but the starting point of a practical peace for the world.

- PART II
THE PERSONAL HOME

*"A home is a spot apart from the world's tempestuous strife;
'Tis the one great throbbing heart wherein is born new life;
'Tis the place where love divine should reign supreme with yours
and mine.*

*Behind its portals must contentment dwell,
And through its open windows tell
That joy and peace abide within.
'Twas thus decreed when God made man
And moulded woman as his kindred soul,
That the two might live and lead the world
Toward love of life at home."*

M. C. N.

CHAPTER I

PERSONAL FREEDOM

"The road to human Freedom is by way of responsibility"

If it be true that man's body and mind are moulded by two influences, heredity and environment, it is doubly certain that the one important element that makes for a right or wrong mould is individual initiative. Although this has been vaguely recognized from the beginning of time, its freedom of action has been curtailed by a variety of influences. Among which, was the ancient custom of parental authority that commanded how a child should think, act and live generally. The idea being that experience and wisdom might be handed down as a commodity, or cloak, to save and protect the younger generation from the faults and failures of those gone before. This kind of discipline, however, not only did not supply the personal need for experience on one's own account, but it raised an army of young despots who in turn used their authority to command, right and left, keeping the same sort of *semblance* of ethical order by dictating in turn what should and what should not be allowed, even naming the length, location and character of the line of conduct that should be made the rule for each; a kind of personal action by force. Then the reaction came, when time had proved this method intolerable and ineffectual, and the child was allowed to wander freely in its own environment. Parental sternness and the rod were cast aside, and the liberty of license in many cases took its place. No restraint and no particular self-control were encouraged, until lacking in firmness and *self-respect*, the young folk had no semblance of respect, or reverence for anything else. Extreme self-will seemed to take the place of fear of parental wrath and was little better in result. Fortunately we are at the present entering a period when both the severity method and the young "do-as-I-please" air, are giving way to saner thought and better feeling.

The discipline of to-day is to rightly adjust one's self to one's

PRINCIPLES OF DOMESTIC ENGINEERING

own surroundings through a proper study of environment. To know the meaning of things, to feel one's self a part of them, to understand conditions well enough to want to make them better, and to realize that responsibility is the substance of which freedom and individuality are made. This sort of discipline that begins with the infant and extends throughout life, is limited to no age, or office, sex, or position; but is established as the natural law of obedience for parent and child alike, with exchange of confidence and a mutual interest in all the daily events. A sort of attitude that brings together the young life and the grown-up, as no other age has brought them together, and gives sense and vision of what is really meant by "Freedom," in actual practice.

There seems to be little or no doubt abroad as to the prime merit and natural order of the family group. The *manner* of its existence has been the cause of controversy, not the reason, for it has passed through the period when too much seemed to refer to, or be a part of, the father; to that pathetic age when the burden of the whole seemed to fall upon the light and unprepared shoulders of the mother; still on to the time when it was declared *the Family*, and therefore the home exists for the child, and back to the original meaning in which the family was declared to exist for the good of the family and the welfare of other families.

In this sense it is the individual members that are important, old and young, weak and strong, male and female, and the ideal family is the one in which all are given an equal chance of freedom, through the best opportunity for development, but we must get it out of our heads that development stops at any appointed age, or time; school age, parent age, or at the grandparent time even. Years are not counted, until one has nothing else to count. Development does not stop until one's *initiative* has gone, until one gives up all sense of responsibility, all pleasure in study and any hearty effort to improve conditions, and takes no further joy in progress or maturity, but becomes a form of human parasite that is not only unhealthy but immoral, a heavy burden upon somebody. The right kind of independence developed in the very young, the kind that

PERSONAL FREEDOM

knows how to take care of itself by virtue of practice in, and understanding of, the surroundings, would do much toward eliminating that great dependent class that grows more and more helpless in the face of obstacles. As long as mothers take pleasure in making helpless babies of their children for the sake of coddling and a selfish joy, so long we will have boys and girls who depend upon *mother*,—or somebody else,—for every strenuous effort; and upon society to give them a living after the obligation of parent is stopped; and grandparents, who will feel their lack of resourcefulness and therefore depend upon someone other than themselves, to keep them happy. So important is this sense of personal independence throughout life's program, that it seems to the writer as if all forms of dependence of whatsoever character, should be eliminated, even at the cost of a certain species of happiness, or of social conflict. The dependent wife is many degrees less efficient and less happy than the one who has been made to feel she is responsible for herself, her own manager, and her own master. The wife who must run to her husband with each question to settle, who fears his decision of her every act, whether it be the purchase of a new veil, or the donation of a gift, is not the woman who is going to meet the emergency of life's lessons and conditions, with anything like the resources at her command that are a part of the courageous temperament of her, in whom independence has been developed and established from the beginning. And the man who would make of his wife a dependent darling, is as selfishly inclined, as the woman who would keep her children in "that sweet baby age" for an undue period. The way out in each case, of course, is a form of education that has as its aim self-government and personal freedom in all things; not as the result of independent fortune, or the whimsical following of one's own temper in each day's acts, but the inevitable outcome of a sense of personal responsibility encouraged through a knowledge of the simple working of law,—natural, political, social, and psychological. Sooner or later every human being must "go it alone," as it were; must be thrown upon his or her own resources. How much wiser then, and kinder in every way to prepare each for what is to come.

PRINCIPLES OF DOMESTIC ENGINEERING

The encouragement of personal freedom, or personal independence, and its right use, seems therefore to the writer to be the object of family life; life that is worth to the little group just what it is worth to the individual members of the group. The sum total of independence and human efficiency that can be produced is the substance from which a real kind of domestic happiness and loyalty spring. It should therefore be the ambition of each family unit "to live and let live." To be free and independent in the control of one's life, one's time, and one's self, with the one provision definitely established that such freedom shall not interfere with the like freedom of another. The law of the land is binding: One must act and move according to rule in the work-a-day world, going to the right and the left as custom dictates. How necessary it is then that the proper kind of understanding of such law and thereby a ready co-operation therein, shall be a part of each one's training in the home. To be forced to do what is not one's sympathetic inclination, is worse than half doing one's duty, for it makes rebellion and weakness; but to feel free to choose the right, or the left, and have every grain of common sense and appropriate knowledge inclined toward the right, is to establish a strength and a joy in the choosing, that ends in the pleasure of co-operation and brings forth a kind of individual initiative that is strong for action and productive of more than mere existence. Heredity and environment both give way under its vital and plastic influence and life becomes more than the driver and the driven. There is a pleasure attached to the journey from start to finish, that results from taking the road of one's own choice, intelligently co-operating with conditions, assuming the responsibility of the crowd, and yet seeing to it that each individual is free and independent to progress in his or her own chosen way.

CHAPTER II

THE ORGANIZATION OF THE FAMILY

"Nothing endures but personal qualities"

It is said that the natural instinct toward individuality, and the reproduction of the species, are opposing forces.

Let us look to the spirit of the family and see if it not only proves them complimentary, but dependent upon each other for proper vitality and expression.

Individuality is having a character all one's own. Not assumed for oddities' sake, but the result of a central motive in feeling, to which everything else is related, and from which everything springs. The native desire to extend one's self into a larger sense of feeling, to be related to more points of contact, and to develop outwardly, even though it be in but a limited way, ends in what is called the reproduction of one's self, but in reality is it not a more perfect fulfillment of the sense of *individuality*? The wise parent does not live in his or her children, but rather by virtue of having the children to live with, by the extension of self into a larger form of sympathy which is rather opposed to the idea of both sacrifice and duty; two much-overworked virtues kept in the foreground where the general thought prevails that parents give up their life when the children come. When, instead of giving up, by the putting of one's self into another, through the producing of another, it is, or ought to be, the larger self, seeking fuller expression, unfolding into higher form, ready to die if need be that this larger self may survive.

This is the family looked at from an enlightened-selfish and homogeneous standpoint, each seeking, and allowed full sway for individual development, each with the feeling of the whole, related at all points and forming through contact a more definite individuality for each, with the unit of the family as the larger order of individual.

PRINCIPLES OF DOMESTIC ENGINEERING

Considered from this angle the human family group becomes more than a simple happening to be cared for, as Nature cares for the birds, or flowers. Its well-being depends upon its conscious and orderly organization, and the higher and more definite the organized effort, the more advanced and useful the family becomes. All organization, just as all individuality, must center about one idea, or purpose, if it would be effective and interesting, and the family no less, should root itself in an ideal or object of common understanding and sympathy; this may be whatsoever one wills, the thing that is determined by force of circumstances, or the thing that one determines by family volition; whatever it is, it should enlist the active support of each and every member of the little group.

As the making of the home is our subject, and as this is the logical and psychical interest of all families, let us briefly illustrate the point in question by centering the family in the thought of its upkeep, and the joy of home possession.

If every child could be made to feel that the home was his and hers to *use*, not abuse, to care for as one would care for one's own person, to protect and watch over as one would guard one's choicest gift, to enjoy as one enjoys the things of one's own creation, and to reverence and respect as the most blessed condition that life has to offer, such a feeling properly fostered would make every purpose of the home a united ambition,—provided each member is given the thought that but for his or her help it could not exist, and provided the purpose is made to appeal to, and attract each and every one concerned. The family in this sense takes on a form that is more than an association, because the social element is prominent and an expression far beyond anything suggested by paternalism, or even maternalism.

Permissions and privileges are submerged in common-sense and independence. Even the young and helpless are made to feel a growing strength in self-reliance and judgment, that only the discipline of corporate interests can adequately foster. So important is the enlisting of the sympathies and intelligent co-operation of the children in the activities of the modern home, that the writer suggests from personal experience, the adapta-

THE ORGANIZATION OF THE FAMILY

tion and adoption of the club form of organization. In which practically everything that is of mutual concern is put to vote. The work involved in the realization is developed as any public enterprise, by division into parts, or small committees. The officers of such a family club would be either elected, or accepted, as the natural position of parent and child would suggest. In fact the separate identification of President, Secretary, and Committee member, would not be as important as that each office should be efficiently filled. The mother might be President, Treasurer, Secretary, and Committee member, all in one. Yet the operations would go on, on the basis of not only each one having a right to express an opinion, but knowing comment, or criticism would be met with the just consideration that club ethics direct. All co-operation would be on the basis of willingness to do one's part, rather than having Mary do this thing for Mother, or John told he *must* do that before a certain hour. The home is Mary's and John's as long as they are a part of it, just as the school-house should be the concern of all the children. Self-government there, as in the home, is the result of having a personal sense of ownership and responsibility. There should also be stated times for the family to meet for, say weekly discussions, when all subjects of importance should be brought before the group, and decisions made as to their solution. A simple program, or order of approach of the subjects themselves, would naturally develop, and while a course of parliamentary law might not be necessary, the essence, or object, of it should be regarded. That is, justice to each, and order and ease of operation for all. The father, or mother being the chair, when present. The simplest Constitution and By-laws might be needed, that would merely state the object of the little group, and the rules for such meetings. Such gatherings could in all reverence, be the modern evolution of the family-prayer custom, now almost extinct in our land, inasmuch as the higher civilization of Nations has made men feel that supplication and the beseeching of the Lord for benefits must give way to a genuine effort to help one's self by shouldering one's own burden and doing one's best in the service of others. A religion of daily work, and not of special benefits and privi-

PRINCIPLES OF DOMESTIC ENGINEERING

leges. An harmonious family life cannot exist in an atmosphere of laziness, discontent, or wrangling, which unfortunately is too often found in greater or lesser degree, in the highly tensioned and nervous American blood. Its solution is to make the disgruntled member a Committee man; give him something to do and see that he becomes responsible for the doing, working his way into the family management through favors earned and not through demand, or by any act of begging. Even the youngest should be listened to with attention and respect. Criticism should be invited from the little ones, but all fault-finding should be reserved for the proper time; presented if possible at the appointed family gathering, and in the form of writing, that a sympathetic sort of action be taken for better mutual understanding. (A family Debating-society might also be in order and useful.)

While we find the Efficiency System applies with astonishing results to the management of the house, and the accomplishment of housework, it is perhaps more wonderful in its psychological result upon the personal development and united action of the family. The thorough understanding of its meaning, even by one member, pulls the family together, as it were, in a way that nothing else can, save a masterly personality at the head, and while in no sense does it tend to reduce the importance of the power of such a person, it makes it easier to arrive at the desired status. Love holds sway of course, love of children and parent, but the manner of moulding these into service for each, and action for all, becomes an orderly and definite form of organization; whereas now the average family is organized only in so far as the natural ties express themselves through happening to be a Smith instead of a Jones, living in the Smith house, having three appointed meals a day, and doing as nearly as possible as somebody else suggests, or as their fancy dictates. To rally around an Ideal of one's own, to use all the Common-sense and Judgment possible in carrying out that ideal, to get all the Competent Counsel available, to give the Square Deal to everybody and encourage it in return, to Discipline through doing and not by attacking, to keep all important Records accurately and immediately cared for, to

THE ORGANIZATION OF THE FAMILY

form a co-operative program of procedure as one's Standard and Schedule, to Plan and Dispatch with love, wisdom, and precision. To Standardize Conditions for the comfort and convenience of each, making every Operation interesting as well as useful. To note each point of importance to the family as a whole and to be ready with generous Reward and appreciation for even the dog—if he is concerned—cannot fail to make a family organization able to meet life's storms and sunshine with profit to itself and the world.

CHAPTER III

CO-OPERATION IN HOME ACTIVITIES

"The principles of efficiency are but the natural law of success, instinctive in great leaders, but readily adoptable by all"

As there have always been successful and unsuccessful individuals in the world, so there are families who pull together at every point and accomplish wonders; and families who never seem to get anywhere in particular, but who suffer from weakness of some form of disintegration which sooner or later seems to attack them in a vital spot, and after faltering for a time, down they go, unfitted to stand the world from all sides and profit by its ways.

While we know it is exceedingly difficult to sum up into any definiteness, the reasons and qualities for success and failure in life, we are also impressed with the fact that these qualities have been studied, analyzed and classified in relation to the *person* from a variety of sides, while the study of the family as a successful unit has had scarce a passing thought. We hear the adjectives fine, healthy, talented, good-for-nothing, degenerate, etc., but seldom do we note any discussion or serious interest as to what has truly made these family groups so distinctive. It is dismissed with the notion of heredity, or fortunate circumstances, a trait in the blood, good luck, or merely with the facts of certain things having resulted; but any digging down into the causes to find the reason why; any corporate study of the various members and how they work together as one; the underlying principles and the method of developing them so that other families might do likewise, has not met the writer's knowledge. We have been satisfied to follow the family through history as it exists, with a historic and passing interest, but with no particular idea of developing families to order, according to any plan other than the natural selection theory. That any family can be led to self-consciousness and self-determina-

CO-OPERATION IN HOME ACTIVITIES

tion by adopting a system of development around a central idea, has not sufficiently entered the possibilities of our educational conception. Love and devotion on the part of the mother, the ambition and self-denial of the father, and educational opportunities for the children, about sum up the elements considered essential for success. Not to minimize the importance of any of these, but to add to them a personal background for their best usefulness, is the purpose of this chapter. For many a family tragedy has been the result of a motherly devotion, at the expense of the life value of the mother; or fatherly self-denial that robbed the children of any sense of responsibility, and higher training advantages that have been a waste for lack of "common-sense" concentration.

A reorganization, therefore, of such virtues into a more modern form of operation that excludes all unnecessary human waste, is the central note in the management of the home from the personal side, and here again we would introduce the efficiency principles or management from the conception of a Functional operative basis, rather than an Authoritative one. By the latter we mean the results of command and influence, through the grading of authority from Captain to Corporal. The orders are given, and either faith in, or fear of the General, and the long habit of discipline make them effective; whether the Company understands, or not, is not of first importance. Each is responsible to something, or somebody, but not to the whole Cause, as an organ of the body must be.

The functional mode of management, on the other hand, would emphasize the need of *understanding* first; a spontaneous co-operation second; and personal responsibility to the chosen ideal as third. All three essential to the right kind of action and development, when instead of authority being the cause of the effect, it is rather the intelligent functioning of each part stimulated by the circulation of educated common-sense, and moving freely and harmoniously in relation to all the other parts. Harmonious control rather than managerial control.

While the making of a home, and the work of the house, demand the united effort and attention of all the family all the time, certain tasks are particularly adapted to co-operative

PRINCIPLES OF DOMESTIC ENGINEERING

effort. Take for example, the making of a bed. It is wiser for two people to make the beds. The movements are simpler, more readily directed, and less time is taken in walking from one side to the other. A thorough study should first be made of the kind and number of motions required in making a standard bed. That is, a bed that has been properly aired, dusted, turned, spread, and folded in, or tucked under. Even the ornamental coverings should be chosen with a view to the amount of time and care needed in the placing and displacing. When this has been reduced to a speed and motion schedule, the average bed will be found to take about sixty motions and sixteen steps in four minutes, but very much less in proportion, when performed by two persons instead of one. Then again the element of companionship and competition enter in, the interest in the work of each other, and the pleasure of moving along together. This is noticeably true in such tasks as the shelling of peas and hulling of strawberries, the husking of corn, and the washing of dishes. The constant experimenting as to better methods and more advanced standards, is an added source of delight, and the learning to work together in the same school of domestic advancement.

So throughout the house, when the plan in maintaining the standard of the home is understood by all, the central motive appreciated, and the separate tasks naturally, or voluntarily assumed, with the responsibility proportionately divided, each part moves along with the consciousness of its being indispensable to the whole, and of its own importance and merit in each undertaking, ready to rush to the aid of the other parts in case of need, from pure interest in the outcome, and concern as to the details. Thus there enters a kind of discipline that is productive of courage, a concentration on the desired result, and a perseverance in order to hold up one's end and therefore everybody else, that makes self-determination and control. Mind enters into Matter and blazes the way. Matter becomes illuminated by mind and develops in ready service.

It is not to be supposed that all is play and easy of accomplishment. One gets very tired, confused and discouraged at times, and even finds it laborious to keep up his or her end,

CO-OPERATION IN HOME ACTIVITIES

but such feelings are not dead and without hope. One does not feel the victim of anybody else, but rather the pleasure and power of individuality that takes up the work again with a new courage and a new perspective, having had merely a lapse of disinterestedness, as one often has in the upkeep of one's own person, clothes, or character, when perhaps a higher form of energy is accumulating, and the fresh start makes up for the break.

The morning housework is tedious and monotonous, looked at in one sense, but no more so than for some people to get up before breakfast, bathe, and exercise and take themselves to the table in an amiable mood. The routine of life anywhere and under any circumstances is questionable pleasure. Taking the routine sense out of it, is the art of an intelligent soul; and this we say is possible even in the sordid work of dusting, airing, and dishwashing. It is when the work gets all out of proportion as to time, and accumulates, that the trouble comes. One should arrange to keep *ahead*, yet one task should not be continued for more than two hours without a change or recreation, and all so-called routine work should be spaced as to related value. For instance, the writer rises at quarter before seven, performs a rapid fifteen-minutes to half-hour toilet, reaches the breakfast room at quarter after seven, has a simple breakfast ready in ten minutes, after the serving of which any one of the household may readily catch the eight-o'clock train. The table is cleared, the dishes washed, and the luncheon and dinner planned or started by nine, leaving an hour for tidying up and arranging the upstairs rooms, and two hours each morning for a special task, or occupation, before luncheon need be considered. Such a noon meal should not in reason consume more than an hour on an average, including preparation and the clearing away. An hour for dinner preparation leaves time for another two-hour task, and two hours for one's self before it is necessary to serve the evening meal, which at this time should not consume altogether more than two hours, allowing a free evening for the thing of one's choice. While this may be a standard program from which one deviates at will, the idea is to suggest proportion in time-study. As a rule we find

PRINCIPLES OF DOMESTIC ENGINEERING

within the prosperous home much too great an amount of time set aside for eating and the preparation of food. While this is an important part of family life, it becomes a dangerous element when allowed to move out of proportion to other things.

Most of us would be far better off if a larger proportion of this time were devoted to the proper preparation of food in the *mouth*. It is certainly out of line to spend two hours making a cherry pie that is to be gulped down in two minutes. Eating under the right circumstances is a delightful occupation for most people. Why then make it a speed trick for a passing moment? People have forever enjoyed gathering around a table of goodies, and perhaps there is no better illustration of family co-operation than that encouraged through the giving of a Social Party that brings those of all ages together for a pleasant festive time. [We all know how successful clubs and other organizations have been in planning and carrying out feasts and entertainments of various sorts. In the first place everybody is interested and then the plan is made with everybody responsible, therefore everybody is willing to help if need be. With a clear vision of the event in the minds of all, and a good manager at the head, co-operation in the details becomes the natural and easy method of realization. But where one person takes the whole responsibility, everything is apt to be neglected and left for this overburdened one to push through as best he can. Just so with the Family co-operative Entertainment or Party. If each is encouraged to find an interest in the occasion and given a share in the responsibility, not with a watcher to see that each part is done, but with the assurance and confidence among all that it will be, because the self-respect of each is at stake; really creditable entertaining may be done with slight cost and little waste, material or human—the latter being more important—and every such effort must make a stronger, happier and better organized family unit. Such recreation is valuable, but such co-operation and co-ordination is invaluable in the development of a higher and more productive self-consciousness that results in the unqualified success of the family who practices such a method.

CHAPTER IV

THE HOME AND THE MONEY PROBLEM

"Give us wealth."—You ask too much.

"Few have wealth, but all must have a home"

"O, if I only had money enough, there would be no trouble with the home. It is because I have to count every cent, that things are not as they should be." How often one hears remarks of this sort and how blissfully ignorant is the one expressing herself thus, of the lack of personal force such a speech suggests. Surely anyone can appropriate whatever is available, if one but have the price. The price of, "should be," is, however, very seldom *money*. It is because we have so imagined it, that our social order has unhappily anchored itself in the deep water of "Omnipotent Means" as the one necessity, and men are driven to money-making for home demands as a life race.

Capital of course is an essential factor, just as labor is an essential factor, but neither of these can accomplish anything worth the having where capability is absent. Whereas, money without ability and without labor is as tinsel and foolishness. Labor without ability and money is serfdom and drudgery. But capability without either money or available labor, straightway produces both, calls into being, as it were—out of the abyss—all that is essential for accomplishment, making *men* by the way, instead of business machines and money slaves.

One can overdo the habit of money-making and money-wanting until there is little left but the mere shell of what might have been a real human character. One can overdo the habit of work until a bended and misshapen body tells the tale of a poor order of intelligence, but one cannot overdo practice in capability. It gathers as it goes, becoming more and more virile, more and more productive, and more and more pleased with existence. Therefore the aim should be *ability*, with money

PRINCIPLES OF DOMESTIC ENGINEERING

and labor following as essential sides of the triangle, but not the apex. Neither is money-giving the highest form of generosity, whether one has little or much. It is what most people think they want and 'tis often the very easiest thing to offer, but how much better is a boost or a lift by the way, or a helping to the next step of acquirement. Money is but a shift, and we all scorn shifts. As Emerson says: "You are to bring with you that spirit which is understanding, health, and self-help." To offer money in lieu of these, is a scorn; the shadow of good.

Money for the solution of the household is just as foolish-minded a desire as money for the creation of happiness. It is always something else that brings relief, although it may appear to be the bank-account at first thought.

To get a dinner when there is "nothing in the house," to make a hat, or gown, out of the merest scraps, is a feat that calls forth all sorts of virtues along with thrift, and makes a conqueror in the doing.

The efficient person works with himself and not with the material only. Our whole thought of money and its object, needs to be reversed and readjusted. The *great* depend on themselves and their capacity, and not on their cash, even though the latter is often a tremendous help.

A bank-account for domestic peace is again not the answer, even though it be hard to turn away from apparent appearance. The trouble is not with the lack of funds. Public opinion and individual disability are the actual roots of the disappointing and disintegrating home. The first, in that it dictates without reason what shall and what shall not be appropriate and in good form. The last because we have not yet realized the importance of the creative personal note, nor have we had the proper practical education to understand it.

The Servant Problem, for instance, is now in the control of the highest bidder. Not necessarily those who give the most wages, but those who offer maximum privilege, are holding the condition in abeyance. But that is no solution. It is merely side-stepping the real issue, and is vicious in effect. Mismotivating the central point and leaving the real difficulty untouched.

So also with the leisure lover, who in thinking money the one

THE HOME AND THE MONEY PROBLEM

and only need, is avoiding the best chance of arriving at any desired goal himself, or herself, by neglecting the simple work at hand that would, through developing personal ability, transform the whole existence, and make the self-earned leisure something from which to create a form eternal.

After all *time* is the only thing for which human beings must account; time and its use. Shall the days make men and women? Or shall they make shams and shadows? The answer is in the value of the hour, and the personal use of one's surroundings. Money, as one of the tools, is a valuable asset, but money as a solution is a misnomer. Who can say what the standard of home-keep should be? It varies so enormously as to be absolutely an individual note, and yet rich and poor alike, the pampered and the destitute, are looking for more of this where-withal to live. There are two sentiments that so far as the writer is concerned, are hard to meet, with any degree of success. One that expressed by the would-be—though often dangerously devoted mother who says: "My home and my children of course come first, always"—but who really sacrifices both woefully by sacrificing herself. The other who insists that all is hopeless without at least money enough to keep things running. The mother who neglects her home and children to the extent of letting the dust rest, and throwing these younger people as soon as possible on their own resources, in order that she may go forth and enrich herself and therefore her home conditions, is wiser than the usual short sight allows. She is not only sowing good seed in the present, but is preparing to reap abundantly in the future. An efficient grip on life at every turn, a grip that must make for knowledge and skill by virtue of its positive attack, is we believe worth infinitely more in keeping things running, than many dollars can ever be without this acquired habit. The more one has, the more one needs. Applied to money and the destructive elements, this is something to consider, but applied to knowledge and the constructive virtues, this law becomes an automatic self-help. These higher virtues and perceptions find their materials everywhere, while the less-wise cry out for particular things and unusual commodities.

PRINCIPLES OF DOMESTIC ENGINEERING

No, it is not the money standard we should spend our best effort in establishing. The problem is the dignity, beauty, and cultural value of labor and the personal use of the leisure hour. This in turn cannot fail to bring its reward in dollars, but they will be dollars that create, not dollars that stultify. A reasonable amount of work for everybody. Common every-day work can be made to develop the mind, the hand, and the man just as surely as has ever the pen, the brush, or the class room. And there can be no opportunity, no Fair Deal even, for all, until *labor* instead of *money*, is distributed more evenly throughout the home. A man is entitled to all the money he can make honestly, but no man should be allowed to put the pressure bit upon another's labor, making a slave of the worker, and an idle drone of himself. We must of course recognize the labor of the head, as well as that of the hands and the entire body, but the ideal balance is *that* including the whole person, and demanding the entire ability, not for all the time, but for a moderate period of each day, with rest and recreation as essentials. Work beginning in and for the home, and extending out and through society, making of each boy and girl, and man and woman, a completely efficient being who can speak and act in the language of a higher expression of personal effort and not in the voice or spirit of the money worshipper.

“What we are is God's gift to us: what we make of ourselves is our gift to God.”

CHAPTER V

THE CULTURAL VALUE OF HOUSEWORK

"Let us understand then that a house should bear witness in all its economy that human culture is the end to which it is built and garnished"

"It isn't what you do, but the way you do it, that makes for good or ill"

As one looks upon a well-conceived picture, where the object of interest in the foreground suggests a perspective leading to an illuminated background, subtly but unmistakably related to nothing less than the whole universe; so one may form a vision of the kind of home where culture finds an entrance and thus transforms every thought and activity to an atmosphere of conscious relationship to all that is finest in life.

Every great thought and feeling in the world has played its part in the home. Talent and genius have come forth from it and returned unto it again, as the electric current returns to its source. History and Government have been because of the home, and the very motive for all existence has forever centered there, for we find in the two natural instincts that divert from the great consciousness, the one of world-conquering, the other home-making, that the object of the first is but to deposit the results at the shrine of the second. Hence the home and its life is supreme.

Is it reasonable, therefore, to concede that the necessary activities to maintain that home have no cultural value? Either we are misled and confused in our idea of culture, or the home is more appallingly poor than it should be, with its inheritance of precious gifts and its own vast possibilities for expression.

Perhaps it is somewhat of each, that has persuaded the mind into the belief that because housework has been and is a form of drudgery, that it shall perforce so remain. Such an impression must be the result of having neither time nor inclina-

PRINCIPLES OF DOMESTIC ENGINEERING

tion to reach out and up and allow the light of the world to pour itself in and shed its radiance through every nook and corner. Any isolated, detached and common-place attitude toward housework is not so much because of the character of the work involved as because of the lack of vision of the worker and a misuse or non-use of that greatest of cultural gifts, human imagination. If the spirit of beauty and romance had been encouraged to follow the cook and the house-maid, as it has traced the steps of the shepherd, for instance, and the milk-maid, perhaps house-cleaning and washing might not have wandered so far afield from the arts. Certain it is that it behooves all women of the day to do their utmost toward raising these things from the drudgery standard, by cutting away the barriers of a shut-in and limited point of view, and relating the every act required in the process of housework to the highest of human activities. It makes little difference what one does, but all the difference that is thinkable, how and under what motive one works. The thoughtful and efficient worker puts not only his mind, but his whole being into the task at hand, conquers it in a masterly way and relates it to everything else he knows at every conceivable point, thus is he not satisfied until what he does is *beautifully* done. If Ibsen has contributed one element of more value than another, it is to the writer's mind, that absorbing thought of everything,—even the most morbid undertakings,—being *beautifully* done. Perfect in whole-spiritedness, nothing left out that belongs to it. So that whether one is at the wash-tub, or stringing beans, all the science and art of each,—the use of the fingers and the movements of the entire body,—should enter each occupation and give back in inspiration and culture more than it takes in strength and temperament. It is a sad waste of human life that allows the affairs of the day to take from it more than they can give back in profit. A kind of drudgery that is immoral, unbusinesslike and unhealthy.

Some day when a new prophet appears, we are going to realize that beauty reigns supreme in this world and sooner or later all else must succumb. Why the delight in art except that it be the messenger of this truth? There is an art element in

THE CULTURAL VALUE OF HOUSEWORK

every constructive act, that can be found for the looking to bring rich treasure in its wake. When we stop the breaking and tearing-down habit, perchance this kind of building-up impulse will take its place, and it will become disgraceful for thought, action, or word to destroy one's body or mind. Let us look to it, then, that the essentials in housework are beautifully done, skillfully, thoughtfully, neatly and exquisitely, that the doing of housework may produce a new kind of history, associated with all the homes of the past, but with a transition that puts a new meaning on the present, and the promise of a happier story for the future.

Psychologically the home has never been awake, but stands ready now in modern form to bow to the dawn, clothe itself in purple and gold, and put new life into all who live and care to live aright, by introducing an educational element into all the *work of the day*, such as we have never known before. Let us welcome this Prince of Science, and hail his approach in each task. If literature is, as Carlyle says, "the thought of thinking souls," why should there not be a literary side to these every-day occupations that have come down to us through the history of the race? Certain it is that language and letters and reading, all enter into the thought of the home and express the heart of the inmates. Conversation leads but to truth in parts. Meditation and thoughtful study unite these parts into a whole and when expressed in writing, 'tis called literature.

But perhaps the most broadening sense of personal cultural-value in housework comes from the social feeling that everything one does is related to everybody else. One becomes not only responsible for standards of operation, but ethically for the results produced upon other people by such standards. Example is, we know, the greatest of teachers, and all acts and motives are both contagious and infectious. Therefore the sociological element enters largely here and declares that one shall not only *be* one's brother's keeper, but shall see to it that he is well kept and encouraged to live at his best.

But why picture any more in the background? The home nestles before us in its native spot, and the atmosphere of cul-

PRINCIPLES OF DOMESTIC ENGINEERING

ture is within and about it. Let us open the window and take it to ourselves with the morning sun.

Although difficult to define, is not this cultural atmosphere the effect of relating one's self to the moving spirit in things? The connection with and the appreciation of a Creative force? It is the antithesis of the isolated, traditional and common-place mode of procedure. It is realizing the life-value and worth in every move and mood; the advancement of thought and feeling in the line of daily pursuits, and the accumulation of a sense of quality by the way.

There is, we believe, in every part of housework a larger and deeper meaning, and a relation to a more distant condition and background than is generally allowed. What, therefore, must be the appalling waste through not appreciating this fact? The lives and bodies of our men and women show a sacrifice to this end. Where we should have the health of the Norseman and the beauty in form of the Greek, we have but weak nerve and a bended head. A wider perspective must lead to these heights, which will be found very real and substantial, neither misty nor dizzy, but ready to shower the light of broad knowledge into the smallest detail of one's every-day labors.

We have thought of our play as picturesque, but the thought of this element in work and in housework has been but to regret that it could not be, but play and work must be united and hie themselves off together, becoming one in spirit and in truth, all that is needed is but the desire. Aspiration makes way for the coming of inspiration every time, and woman is the great aspirer. She is the source and sustainer of life, and yet she must know more of herself, and of natural science for every-day application, before she will have become the kind of source and sustainer most needed. This but awaits her desire and is within her intuitive power to grasp as a truly cultural effect because of her contact with her Maker and her fellows through every hour of the day—coupled with a sense of her own high mission.

CHAPTER VI

TRAINING FOR DOMESTIC ENGINEERING

"The conservation of all that pertains to the best interests of home and home life, should be our first concern"

The simple undisputed meaning of the word domestic—pertaining to the home, or family—will give us no cause for discussion other than perhaps its inclusive sense. It may but relate to the Kitchen and the cat, or in turn it may include all that pertains to one's State and Country. To limit it to our particular purpose, however, we would have it suggest the home and all that affects the family therein.

To qualify engineering and its purpose as a profession, associated with domestic activities, is the purpose of this Chapter. While domestic science has had considerable Academic attention, the subject of domestic engineering has not yet seriously entered University thought and practice.

In the most restricted sense, the word conveys merely the idea of designing, constructing, and the running of an engine, but as the profession was practiced under this title long before an engine even in its crudest form, was invented, we must search for a deeper and more definite explanation than is suggested by such a definition. Although the planning, constructing and administering of the home as a social engine, or motive power, in the community, will ever be the highest purpose of its existence, a more modern translation of the word "engineering" would be, the skillful guidance of an enterprise to a desired result through knowledge of its parts. This, coupled with the generally accepted meaning—"To direct the great sources of power in nature to the use and convenience of man," gives a legitimate use for the term in connection with the home and the sources of power there involved. The direction of this *power* toward *desired results*, and the knowledge of its best relation to material, to the principles of operation and to the laws of

PRINCIPLES OF DOMESTIC ENGINEERING

nature, is an education needed for the woman just as much—if not more—than for the man.

By Domestic Engineering then is meant the profession of designing, producing, and guiding the home and the family to approximate perfection, that they may be of most use in the world's operations. It includes all that is allowed under Domestic Science and Home Economics, and would add thereto the principles of general engineering, efficiency and business.

While we are apt to associate with the engineer a knowledge of higher mathematics, the actual practice in this subject is not as essential as the mental result of the habit of mathematical thought, with, of course, the necessary aptitude for such a habit. Accuracy and precision, quick perception and quick action, good judgment, and the ingenuity to meet and overcome obstacles, should be the mathematical sense included.

Mechanics should also enter very largely into such training. The principles involved in the construction and running of machinery, with the theory of and practice in every sort of household machine in vogue and their relative values. A study in business principles, and the elements of economics and their application at every point, that maximum results may be arrived at with least waste in time, labor and money. The inventive ability should be encouraged that improvement be made progressive.

Knowledge of, and acquaintance with materials of every sort that enter the home, and their use, with comparative worth, would be one of the endless studies in this profession.

All the scientific information possible, included under the general head of physics, of the science of energy, together with chemistry, sanitation, hygiene, culinics, dietetics, etc. In other words, a familiarity with the laws of nature as they touch and have to do with the home and its life. But it is about this last word that the keynote of training should center; life, interpreted in psychology, anatomy, biology, physiology, etc. The study of the human being and its best development, is the cornerstone from which such a profession should grow, expand and develop. The form of training required should start with the human body, unfolding as it were, to its environment. It should

TRAINING FOR DOMESTIC ENGINEERING

include a working knowledge of each physical organ and the systems of circulation. It should be familiar with the nerve centers and their importance. It should include a course in mental hygiene and in manual dexterity. It should determine the amount and kind of exercise required in order to maintain health, and above all it should be definitely certain as to the amount and kind of food essential for proper nutrition.

The profession of home-making interpenetrates, as it were, all other professions. The successful mother must be a cook, a nurse, a seamstress, a house-worker, a doctor, a minister, a teacher, a writer, a hostess, an economist, a scientist, an artist, a philosopher, an engineer, a business manager, a public and social worker, and oftentimes a wage earner and an agriculturalist. Such a list is awe-inspiring and yet everybody knows the woman of the house is expected to meet this great field, and frequently does, with an ability that is astounding when one considers the inappropriateness and inadequacy of her training. The course of study laid out for the average girl is a series of periods adapted to the boy mind, for the reason that instead of starting with the study of herself and life which is her instinctive care, she is made to detach herself from her center of interest, and work at separated and partial problems that only the faculty of reason can put together for proper use, and then largely for mechanical purposes; a faculty in which she does not excel, nor was it ever intended that she should. It is not the highest gift to humanity nor should it be so mistaken. Her intuitive gift that leads her to know from putting herself in the heart of the subject, her very contact with life itself, should be better understood, revered, and fostered from the beginning of her training, and a class of studies adapted to her particular function in the world, correlating with, but unlike those adapted to the development of the boy. Even her school course in domestic science originated and was formed upon the department of manual training designed for the other sex. The creation, nutrition, and the preservation of life, is her portion, life in its finest form, and her education should fit accordingly.

She has therefore through this lack of training had an un-

PRINCIPLES OF DOMESTIC ENGINEERING

warranted struggle to maintain her real place in the world of progress. Unprepared for responsibility and unacquainted with even herself and her true function, she has been well-nigh led astray in her maternal instinct,—if it were possible to so lead her.

Thus we look to the interest in Domestic Engineering to remodel and readjust the thought of the day as to the sort of knowledge and training that should be given young women. Not that it should differ in kind from the present course, but in point of view, and in relation to life and its operations. The same habits of study and breadth of view should be encouraged. The same common-sense and courage that will meet each problem, old and new, and be ready for any emergency. The same higher cultivation that makes for wider appreciation, but it should all begin with *herself*, and focus in the home and the family. Then will the mother be able to so co-ordinate and assemble her knowledge through the understanding of the life-value in all things, as to meet with strength and abundant resource the many-sided demands upon her, and with an insight all her own, a natural grasp, intuitively developed, be led to see the solution as well as the real possibilities of every situation.

The writer has so often been asked to outline a course of study for a Domestic Engineer that perhaps the following table—although possibly inadequate—may suggest a form of schedule to be evolved:

1st Year—Self-knowledge—contained perhaps in such subjects as Biology, Anatomy, Physiology, Psychology, Physical Culture, Mental Hygiene, Sex and Mother Study, Nursing, Child Study, and Life Processes including Fatigue.

2d Year—Knowledge of Surroundings as suggested in Science and Physics, Chemistry, Sanitation, Bacteriology, Study of the House, Principles and Practice of Plumbing, Heating, etc., Mechanics, Economics, Culinics, Dietetics, etc.

3d Year—Practice in Use of Environment—as made possible in Vocational and Apprentice Housework, the Arts and Crafts, Management and Execution, Study of Textiles and

TRAINING FOR DOMESTIC ENGINEERING

Values, Principles of Invention, Business and Responsibility Tactics.

4th Year—Creation of Personality the result of applying the above—Dramatic Art, Classic Dance, Art Composition, Pageantry, the Study of Motion, Family Psychology and the Engineering of Home Making.

CHAPTER VII

THE MEANING OF ROOMS

"Infinite riches e'en in a little room"

Did you, my good reader, ever look at a house with the impression that it was a person? Did it ever make faces at you, frown, scowl, or be astonished at your gaze? Look upon you with a threatening, or aggressive expression, perhaps even in vulgar mood, or beckon you pleasantly to come within its cosy shelter and enjoy its own restful and delightful air? Even would it smile were its form not so fixed. The whole attitude friendly and fine, dignified and charming, due in part to the skill of the architect, and in a measure to the requirements of the owner. And again it appears as the exterior clothing of the life of that home, conveying the disposition of the family through its composition, texture, color, form and quality.

So it is with the inner expression, dependent of course upon line and proportion, but showing the status of individuality and native culture through its furnishings and finish, and through the personnel of each room.

Did it ever occur to you that these rooms are very much more than divisions of space for pleasure or convenience sake? No matter how simple, or how luxurious the spacings may be appointed, the meaning and object is the same in all houses. To arrive at this, to develop it intelligently, and to encourage the suitable use of each room, is a delightful and ever-present subject of interest to any woman who has a spark of poetry or dramatic sense in her make-up.

And let us not think the meaning is any less real, or practical because of weaving about it this feeling of romance, for poetry and drama that is not founded in truth and actual practice and expressed with conviction, is but artificial twaddle, unworthy its name.

The setting of the room in all its parts should introduce and

THE MEANING OF ROOMS

suggest the character, and preface the destiny in family action, and the atmosphere of the whole carry one into the more subtle and mystic possibilities of each domestic hearth.

But let us proceed to this meaning by taking a glance back at the historical beginning of rooms. The earliest records show the interior of the home as one room, or cell, for the purpose of shelter and rest from outer conflict; the evolution of this cell, or the adding of other cells, or chambers, being but a development of civilization and corresponding to the personal progress of man, until now we find the many-roomed home illustrative of life as it has grown in complexity.

Even the many-roomed home of the past has changed greatly in quality and been adapted to present-day requirements. Instead of the stiff and stern expression of authority, the cold and distant atmosphere, emphasized with hard coloring and morbid touches of self-denial and the fear of the hereafter; we have homes of warm and intimate feeling, suggesting ease, freedom, and pleasure, accentuated with little touches here and there of delightful memories, personal and charming notes. The very texture of the walls and furnishings suggesting a mood that is harmoniously carried out in coloring and composition. The art of furnishing and the material available, having reached a truly high place in what is known as interior decoration. But in most part it revolves around a tradition, or a period, a foreign custom, or a particular school; individuality and life-value having made but limited headway even where vast sums are at one's disposal. The reason for this being that the meaning of rooms has not been sufficiently grasped by the average owner and decorator alike. The house is much more human and personal than has been generally allowed.

The four essential sides of the life of a family that must be supplied by the closest environment, are the physical, the intellectual, the social, and the spiritual, and while all of these enter into the value of each room, the setting of which in turn reacts upon each, still we may say that the kitchen supplies the physical man, the dining-room the understanding of his needs, the library the mental side, and the development of knowledge. The drawing-room the social and entertainment

PRINCIPLES OF DOMESTIC ENGINEERING

side, to which may be linked any other rooms of recreation, and the bedroom the spiritual and psychic side, for in sleep and repose is found life's highest treasures. All of the past and all the future seem to marry here in creation of the present. A veritable reservoir of human possibility, and the greatest gift is to know how to envelop one's self in the quality of sleep that leads to spiritual advance. The halls and stairs are as the circulation, or connection of parts, and the entrance or foyer as the will that regulates transition, and develops intuition. Mayhap the interpretation appears fanciful and yet gentle reader, stop and think. Are not the very partitions in a house, in order that the needs of the body be supplied in each part excluding the other sides for the time? Fostering a concentration on the purpose at hand? Would it not be distracting to intelligently feed one's self in a room where books, and music, sewing and business were each taking one's attention at the same time? As is said in the Good Book: "There is a time to weep and a time to laugh, a time to mourn and a time to dance" and each subject should have its place, the relation determined by the spacing and the inner perspective. The floors in finish and quality giving a sense of the foundation of the room's value; the ceiling the limitation. Not that one should reach great heights in reality, but in sensation. There should be no dull and heavy weight, no shutting down upon one's sense of proportion, but a clear, transparent tone suggestive of ample height. The walls tell the story of the predominating mood of the inmates; the character of the feeling expressed in each quarter, and the kind of inspiration needed in all.

As to the furnishings, they are but the tools for action; the kind, the shape and quality conforming to one's thought. So a family may be read, all unconsciously perhaps, by peering through the windows at the furnishings therein displayed. Not only the rooms, but the whole house should be looked upon as expressing life. The inner, or more private part, as the mind and feeling. The house itself as the outer form, or body, and the family as the soul. Then would furnishing become a simpler study, with less danger of the accumulation of *things*, unused and unfitted to the scene and its period.

THE MEANING OF ROOMS

As long as fashion dictates what shall and shall not be, incongruities and misfits must result. Things useful for the Smiths will not merely for that reason be useful for the Joneses, for while the whole human family has a likeness all its own, each separate individual, and each little group has a difference all its own, and the marvel of creation is that no two have ever been found alike. Why, therefore, should we follow a less natural tendency in the home that expresses the individual? Why make houses all alike, or appoint them for a farce, when comedy or serious drama is to be the play?

The logical way to furnish a home is to see first to the nature of the family, and then separate the parts into the principal sides, and these sides into their unit of composition. In other words, assemble in characteristic form the furnishings and material for each. The drawing-room, for instance, is a room for congregation, spaced in such a way as to give opportunity for intimate, or friendly conversation, proper audience to music,—if there be not a separate music room,—and altogether a place to withdraw for social purposes, the character of which is to be determined by the likings of the family. Two cosy chairs here, pleasantly inviting for a dainty cup of tea and a little talk, a larger group there, with perhaps a table and a spacious sofa or Davenport. Another grouping of a stiffer form to fit the need of just a moment stopping, with lighter chairs or seats that lend themselves to ready moving. With this idea in mind, the room will never lose its meaning and cannot fail to attract and interest just by virtue of its being true to itself.

The Library, on the other hand, is neither for general congregation, nor social functions, but a space where books and reading matter is conspicuous, and where lights, easy chairs and comfortable corners invite one to thoughtful things, to discussion and study, to exchange of opinion, and the enjoyment of knowledge. It is therefore logically furnished when the groupings and the fittings carry out a scene for the action of all that is intellectual and delightfully instructive.

The Dining-Room we find more personal and should therefore be more private. While its function is so well known that its furnishing logically takes care of itself, as it were, just a

PRINCIPLES OF DOMESTIC ENGINEERING

suggestion may be appropriate as to its relation to the "understanding" of the physical. The writer once heard a boy say he cared not what he ate as long as he was filled up, and while this is the extreme of ignorance, yet very few boys, or grown-ups realize what eating can mean, or the art that may be developed in the operation, and while much attention has been given to the manner, or form, in eating, little thought has been devoted to the principles of the act itself. The Scientific way to eat, and the surroundings that would encourage the understanding of brain feeding, and nerve feeding, and the higher psychic nourishment, as well as the feeding of muscle and blood, would be genuinely worth the effort. Perhaps the form and setting of the furnishings is as logical as may be had, but great care should be given to the choice of the chairs, that they fit the body as restfully and properly as an upright position allows. Some of the straight-backed chairs of our grandparents' time were more intelligently adapted here. To eat in a reclining or uncomfortable position is not a wise habit.

Again, little need be said of the logical way to furnish a Bed-Room, further than that the bed as the motive of the room, cannot be too carefully considered as to quality, comfort, simplicity, and form. It is the place upon which one lays all one's burdens at night and wakes refreshed for the day. It is the custom to mount to it, if not in the old step-ladder way, at least up the stairs from one's lesser private life, to the inner sacred shrine. Here it is logical to furnish with sentiment, with religious devotion, and with personal ease in mind. It is the haven of the spirit, and as such it should express a reverence for all inspiration needed.

While the Foyer, or Front Hall, is in one sense the most public portion of the house, in another it becomes extremely exclusive, if properly treated. It is the place for the hesitation, transition, and the conclusion of the will. One passes from one portion of the house to the other by way of the hall, giving it the function of blending together these moods. A friend arrives, one hesitates a moment, and then selects the room for the occasion. A stranger enters, and one decides his reception. The Hall is the outer expression of the inner private life, and

THE MEANING OF ROOMS

from a furnishing standpoint most fascinating, for the reason that dignity, good taste, and ample sympathy should preside, while formal furnishings should be their vehicle. It is perhaps the most difficult room from a logical furnishing standpoint, but when successfully appointed, the scene is here set for the result of the best of one's individuality.

CHAPTER VIII

DOMESTIC INDEPENDENCE AND HOSPITALITY

*"You must therefore love me myself and not my circumstances if
we are to be friends"*

*"Are there no flowers on earth, in heaven no stars,
That we must place in such low things our trust?"*

Perhaps no one domestic virtue has gone so far afield of its real meaning, and been subjected to more kinds of artificialities and misinterpretations than that of hospitality.

To take in the stranger, or wayfarer, to give refreshment to the traveller, and "treat with kindness but without regard," was the original intent, when the distances were great, public taverns few, and the only means of getting from place to place was by the exercise of one's personal ingenuity. "Hospitate" was both hospital and hospitality. The taking in of the sick, the halt, and the blind became too great a burden for private means, and so public institutions were established with the idea of receiving the more needy guests of a town, until now under the name "Hospital" every sort of sickness and helplessness is cared for, from that requiring but temporary rest for recuperation, to that of permanently housing the poor and the insane. Thus has the needy traveller been publicly provided for by the combined efforts and support of the community, leaving the stranger to care for himself in the independent way afforded by hotels, inns, and other public stopping places, that have become a part of every town and hamlet in its hospitality.

In a general way there is left but the possible wayfarer of the moment, who perchance may need for his personal welfare but a bit of information, or a kindly word in passing. The hotel, the hospital, and other public institutions having taken the place of the home in the provision for the guest of the first meaning, leaving under the head of hospitality the bidden guest

DOMESTIC INDEPENDENCE AND HOSPITALITY

of one's own choice, the friend of the family, or of a member thereof. While friends are formed and friendship developed through various avenues of interest, circumstances, contact, and natural happenings, to be virtuous and worthy the name, all should be rooted deep in human sympathy and service, and no other should be welcome to one's inner life. The hospitality that prides itself upon the flow of wine and the number of guests supplied, the constant going and coming, and the "open house" program, either gives unduly of itself and makes for friendly poverty, or provides the mere shell of the real thing that cannot but end in destruction, and is as vulgar in appearance as any other artificial imitation of reality.

The home as the private and personal life of the family should be hospitable only to those who through contact with this inner self are made to create a mutual joy and understanding. The will of the host should be to give of himself, and the will of the guest to do likewise. The degenerating idea so common to present times of expecting every sort of provision for one's personal ease and enjoyment, every luxury, and every attention, not of the heart but of the bank-book, makes the coming of the modern guest too often a thing of financial, rather than friendly and intimate concern, for while the visitor if bidden in good faith, has every reason to expect the attention of a right good welcome, and pleasure in the visit, it is altogether unreal and therefore unright, that it should depend upon the number of courses at the table, or the number of automobiles at the door. Such a guest is a troublesome concern to the host, and a sham unto himself, reaching out to the hand only, of him who entertains, with too faint thought as to the quality of the heart. This false sentiment that seems to be hovering over the custom of the present guest chamber is, however, not so serious, even when it seems to exist, for the reason that it is not so much a fact as an appearance. What the guest really wants is that sense of freedom and personal ease that comes from the unrestricted use of another's environment as one would use one's own, a visit, a change of scene, and the freedom that is acquired in a hotel, coupled with the delight of having it cheerfully provided and offered by a particular host

PRINCIPLES OF DOMESTIC ENGINEERING

of one's choice. If therefore there might be a mutual understanding that this condition would be assured, all artificial effort for its creation would give way to a study of actual and charming relationship that would make the program of entertainment turn upon a personal and friendly note, rather than a material and selfish one. No matter how elaborate the surroundings, or how constant the attendance upon one's wishes, for permanent happiness there is no enjoyment like the gift of independence, and unless the guest can be made to feel this, together with the charm of the atmosphere of another's home, the variety of different customs, as they touch upon the more inner sacred chamber of an individuality than may be had in other social intercourse, the host or hostess will have but poorly succeeded in the entertainment of the guest.

Since the beginning of time independence has been the cry of the personal soul. Bodily freedom first, from devouring beasts and the vengeance of the Great Spirit; National and Religious independence; political, social, industrial, economic; freedom of speech; free education; the independence of woman; and the last and perhaps the most basic and important that is now to be declared is *domestic independence*, the thought that the home requires of one only what one chooses to give, and can readily give for its support. It must first, however, be made so much a part and delight of each life that devotion to the home *purpose*, will be a perpetual pleasure, not the permanent and pressing duty, so often found to exist, holding the mind as it were in a vice; oppressed by reason of the ever-broadening number of demands, and that helpless feeling of being driven beyond one's strength and resources. Suppose five servants do seem to be required, or one even, for the proper maintenance of an establishment, if at any time they may not be had, let us not sacrifice our lives to such a catastrophe, but rather cut the garment to fit the cloth, and run the house in such a manner as to support it with what *may* be had. The help of good labor is most comforting, but if it is not available, let us still live, and not become so weak as to give up our domestic ties and the personal value of home, helplessly dependent upon the force of circumstances. To master one's situation by knowing

DOMESTIC INDEPENDENCE AND HOSPITALITY

one's environment, to practice the essential operations, and to be sure of the foundation of things, gives a sense of power and discrimination that cannot but make one equal to any emergency that may arrive. This spirit of independence becomes a powerful state in maintaining the house, that is not only contagious in the family, but affects everyone who may come in contact with its influence. Perhaps no one element will induce greater progress in the home and its social relationship than this feeling of being equal to the situation. It is the culmination of the efficiency system in a nut-shell; capability, productivity, and initiative, being the branches from which it naturally develops.

To be dependent upon the presence, the efforts, the humor, or even the ability of another; to feel bound by custom, rule, regulation, or the expectation of a coming guest, is to start the beginning of an unnatural barrier that cannot fail to spread and become destructive in its influence. Tension and nervousness result. The guest is sensitive to a confinement of thought and feeling and the visit or entertainment is just so much injured thereby. With the idea of the freedom of the house, coupled with a sympathetic relationship, the efficiency of a visit, the satisfactory result, would be in proportion to the knowledge of one's surroundings and the pleasure taken in adaptation thereto.

It is well to adopt a plan whereby the visitors in a home may know in the simplest way what customs of the house are usual, why it is necessary or not necessary to conform to them; how and where to find any material that may be required at a moment's notice, without disturbing the hostess, or even summoning a maid, and the program or general plan of action to be carried out for each particular visit. In this way intelligence is developed as to the surroundings, it but remains then to take pleasure in the performance in a free give-and-take process. A sort of adaptation of the Golden Rule, for no one should accept the hospitality of another unless he be willing to do his utmost in return, not necessarily by an exchange of goods, or visits, but by the giving of one's best effort to the situation. Thus the spirit of Service should prevail on both sides, the guest

PRINCIPLES OF DOMESTIC ENGINEERING

bringing the fruits of good will and good cheer, the host making ready by preparing his offerings and delivering them, not necessarily with the help of a servant, but by way of himself, unharassed through the effort.

The work of entertaining generally, to be successful, should not fall too heavily upon the host. Each guest, whether for an hour or a day, should have reason to feel a sense of responsibility and a willingness to co-operate in the occasion to the very best of his or her ability. Most people enjoy looking after themselves, and the independence of going and coming. Why not encourage this personal liking by devising ways and means not only to make this possible, but to make it most pleasurable?

The habitual use of a Bulletin Board in the home, where all information needed might be had at a glance, would be most useful for the visitor, besides the special directions that should be posted in the guest's chamber, and in other portions of the house.

The native joy in producing one's keep, which has its expression in being able to take care of, or help one's self, is too great to be carelessly ignored. For while it is pleasant at times to be waited upon, it is most oppressive when it becomes a habit. Thrice pleasanter is it to feel free and able to wait upon another.

And so we would say the model guest is he who carries in the spirit of Service, to give of himself, and to take what is offered in a mood of reverence, responsibility, and restful delight, feeling it a pleasure and an honor to be bidden into the inner life, as it were, of one's friend. For if he cannot feel this, he should not come. In coming he shows his gratitude, not so much for the things with which he may be provided, as for the joy and sympathy offered in the gift of friendly contact. As Emerson says:

"I pray you, O excellent wife, not to cumber yourself and me to get a rich dinner for this man or this woman who has alighted at our gate, nor a bed-chamber made ready at too great cost. These things, if they are curious in them, they can get for a dollar at any village. But let this stranger, if he will, in your looks, in your accent and behavior, read your heart and earnest-

DOMESTIC INDEPENDENCE AND HOSPITALITY

ness, your thought and will, which he cannot buy at any price, in any village or city; and which he may well travel fifty miles, and dine sparely and sleep hard, in order to behold. Certainly let the board be spread and let the bed be dressed for the traveler; but let not the emphasis of hospitality lie in these things. Honor to the house where they are simple to the verge of hardship, so that then, the intellect is awake, and reads the laws of the Universe, the soul worships truth and love; honor and courtesy flow into all deeds."

CHAPTER IX

AN "EFFICIENCY" DINNER

"All the arts wait at my table, every man of quality take sanctuary here! I will be patron to twenty liberal sciences"

It avails little to know what ought to be done, if you do not know how it can be done. To give a dinner without a maid, a butler, or a cook, one must know how to plan, to execute, to enjoy the work, and to appear at the feast as fresh, affable, and recuperated as if having come from a walk in the garden, or a chat with a friend.

While this is not difficult for almost any would-be hostess, yet it might be suggestive to describe one of the Dinners given at the Experiment Station as a sample of such possibility, even though it may not in detail appeal to the reader.

The ideal, or first thought that comes to one in consideration of the character of such entertaining is, we take it, good company. One may enjoy a dinner with interesting companions and hardly realize what is being served in the way of food. On the other hand, uncongenial, or disagreeable guests would make the most perfect dish unpalatable to a sensitive member of the party.

Of course the menu should, and generally does, have careful attention, and the inclination of the good hostess is to bountifully give of the best she has to offer. Second to good company, then, it would seem to the writer is smoothness, ease and comfort in the service, beauty of setting, order in the progress, and individuality in the atmosphere.

The Dining-Room is the most intimate room in the home, of those devoted to social uses, and the gathering of friends about one's table is an invitation to enter into personal understanding, as well as close and friendly touch with another. No one would accept therefore in good faith unless willing and happy to partake in this form of relationship.

AN "EFFICIENCY" DINNER

The conditions in the air, that are most fitted to the psychological success of a dinner, are such as make for a free, happy flow of conversation, good feeling, and original thought. Everything of a material form would be subservient to the personal, so that in the choice of the menu, and in the serving thereof, care should be taken to assure the most efficient and tactful management to this end.

There were two reasons in the mind of those at the Station for attempting this form of entertainment without assistance. First, to standardize the serving of meals generally that may at times, for any reason whatsoever, have to be arranged without help in the Dining-Room, and second, because to properly establish a right sense of domestic independence, one must be able not only to do the necessary things in each department of the house, but to do them in a satisfying way and in a manner expressive of one's ideals. Not that having a dinner party is essential, or the doing without human service a wise choice, even though there is a feeling of joy in the elimination of a strange personality in the room and a relief in the concern for "those who are to eat after," as well as in the waste and expense in the case, but if a hostess can effectively meet this test, and successfully fulfill the function of manager, cook, waitress, and the charming head of the table, she has mastered at least in her own mind, many a lesser situation, in the solution of this greater one.

Although independence and originality are both to be carefully considered, just enough conventionality,—or the following of the prevailing custom—is a wise manner of proceeding, for the reason that it encourages ease and smoothness in the service, by virtue of the guests knowing what to expect, and therefore not having their attention too absorbed in the material detail, therefore the food to be described was chosen with the idea of the demands of the usual, formal courses, care being taken to supply such things as needed the least trouble and time in preparation for the service of ten covers.

The table was prepared and decorated early in the day. A large revolving silver salver, serving the purpose of a centerpiece, as well as a server, and bearing some choice roses, which

PRINCIPLES OF DOMESTIC ENGINEERING

were also circled about underneath in interesting antique silver holders. The china used was Rose Medallion, and the cloth of Japanese embroidery. A rose at each place indicated, with the name-card, the placing of the guests, and the shaded lights and glimmer of the silver side-table, or revolving Dumb-Butler, added to the pleasant and festive atmosphere of the room.

After the arrival of the friends in the Drawing-Room, the hostess withdrew for the fewest of moments to place the contents of the electric "fireless cooker" compartments upon the silver dishes heated for the purpose, garnished and placed them rapidly upon the dumb-butler, returning to the guests with a tray of drinks and dainties that had been prepared and placed in the ice-chest ready for serving. As the food, to be served hot, had been put into the dishes at maximum heat, the little delay in reaching the Dining-Room mattered not, although there was an electric plate warmer upon the lowest shelf of the dumb-butler to be used as necessary.

The first course was grape fruit centered with seeded white grapes prepared early in the day and cooled. Next, a celery soup that had been poured while boiling, into thermos pitchers, and was now ready to serve in tiny Japanese bowls upon brass standards, just in front of each plate. Each grape-fruit plate was placed in turn upon the center-piece with a direct and easy motion and revolved to the hostess, who deposited the skins in a handsome medallion bowl standing on the lowest shelf of the dumb-butler, the silver in a little wooden basket, and the dishes at the side, leaving ample room for the plates of each course to be handled in the same way. While at first thought it may appear a confusing operation, in actual practice it is orderly and convenient, one guest following another as attention is attracted, and each plate has quite completed its object. It but requires a little skill on the part of the hostess, that no noise of unnecessary movements be allowed in the management of this lowest tray. The little soup bowls may be returned to the original place, or, put in turn upon the silver salver. A roll, a pat of butter, a biscuit and a bit of unleavened bread was to be found upon each bread and butter plate, and now the meat course was the next dish scheduled. The host in the meantime having

AN "EFFICIENCY" DINNER

carved a boned turkey in pieces convenient for each to serve him or herself from the center. To the right was a dish of baked brown rice with mushrooms. Next to this some finely sliced string beans and carrots, and still next a pretty form of cranberry, all arranged in the order to make it convenient for one to help one's self to meat, for instance, while another might be serving herself to a vegetable. The matter of personal serving was as each felt disposed. As this course moved from the table to the second tray of the dumb-butler, the next course was put in its place; plates of deliciously prepared chiffonade salad with cheese, crackers, ripe olives, and almonds, circled in turn to each guest. Maple ice-cream was the dessert, frozen in the afternoon by "James" the electric motor, and packed in a thermos box awaiting in perfect form the hour for use. Large ripe figs preserved in syrup, and some little pound cakes accompanied this course, after which the party returned to the Drawing-Room for coffee and bonbons, leaving everything in orderly routine upon the five trays of the Dumb-Butler, to be quickly rolled to the electric dishwasher, incinerator, and food-closet after the departure of the guests.

Not for a moment would the writer suggest that such an affair entailed no work, for from the selection of those who would form the most congenial company, to the washing of the last cup, an intelligent effort was necessary, but with careful planning, and particular attention, the time and strength, as well as the money required, may easily be reduced to a minimum, and the whole performance carried through with one pair of hands, and about four hours of actual labor. The boned turkey is practically prepared by the butcher. Any skillful meat-man if given sufficient notice, will attend to this, allowing the bones to be roasted in the same vessel if desired; any flavoring or seasoning one prefers may also be added to taste, and the whole placed in the electric oven automatically arranged to do the work on scheduled time.

The vegetables and salad may also be prepared in the early afternoon, the cream frozen and the little dainties put in place. In fact there is no excuse for the entire dinner not being completed at least an hour before the time appointed, so that a rest-

PRINCIPLES OF DOMESTIC ENGINEERING

ful toilet, and the proper making ready to receive one's friends, may gracefully complete the last touch, when one acquires the crowning satisfaction at least of feeling she has given of her best, in knowledge, attention, skill, labor and thoughtful consideration, which cannot fail to produce an atmosphere—the result of thoroughly appreciating every present condition—that should make the guests happy in assembling.

CHAPTER X

CHILDREN AND THE EFFICIENCY SYSTEM

"I am a young person, but not therefore impotent"

But what of the children under the Efficiency System?

A question so often asked the writer that it deserves in this volume a little space all its own, not so much for the putting down of either the facts, or the theories of the subject, as to outline the natural principles around which the children develop in a free and independent way through an orderly and creative consciousness that seems to relate them to the same method of action as that accepted by the parents and the household of which they are a part. For they take to the idea without question and become the best kind of students.

To have a clear conception of what you want to do before you do it, is as productive of self-control and self-reliance in block-building as in making out a household budget. To have the habit encouraged of asking the most intelligent questions possible, is as useful for the satisfaction of the child as the adult. Common sense and judgment result just as readily and effectively from experience in play, as in work. The fair deal in practice, is the joy of youth and the crowning delight in all games; and discipline and reward on the whole, is perhaps better appreciated by that acute childlike sense of justice than by all the arguments and methods devised by his elders.

These, as the six finer principles of the Efficiency System, control or lead to the working of the other six, so that it becomes merely a matter of a customary form of approach for the child, as well as the parent that helps the self-development of both. We are too prone to look upon childhood as a merely physical, or animal period of existence, and treat it as though it were incapable of any other form of appreciation, whereas in truth it is perhaps, the most sensitively spiritual age of man,—unless it be the very aged,—and more subject to reason than is gen-

PRINCIPLES OF DOMESTIC ENGINEERING

erally believed, so that while the intelligent guiding of the increasing energy of the child should be one's first concern—for energy develops with normal use—such concern should not limit itself to the purely physical, or even mental but bear in mind constantly the constructive and altogether higher power of the psychic form of vitality coupled, or interpenetrating the bodily, and always present and active in child life. To properly appeal to the childish imagination is therefore to create a condition that will automatically sweep all before it. This the Efficiency System can do for the reason that it works through a series of pictures rather than through a stilted order of exercises. It makes a practice first and always of starting with a vision, and then filling in with all the mental pictures that are obtainable in relation to the thing desired. This makes the spiritual sense lead the way to all action, followed closely by the moral thought of the rights of other people and the justice in the mode of procedure, and the mental working of how to go about it to realize one's desire, together with the physical exercise of practice in the detail. Thus the individual concept is fostered through giving it a more general relationship.

The child is delighted to engineer his own movements. The necessity for repression gives way to instruction in the liberty of action. The child realizes from its elders that the only control needed is that of knowing the laws in the case, natural and social, and conforming thereto, which after all is the highest sort of self-control, or self-government, and the parent soon finds that the subject of discipline takes care of itself by properly encouraging both the spiritual as well as the physical energy to natural and spontaneous expression. The normal child, even ever so young, has a keen sense of its own latent resources. It likes to feel free to follow its own inclinations, and is independently disposed from the beginning. What an unnatural procedure it is then to suppress this constructive disposition by any method of punishment, inhibition, or servile attendance, further than is necessary to lead it in orderly fashion toward realizing its own desires.

The nurse becomes an abomination when considered in the light of the efficiency system, except in cases of sickness, or help-

CHILDREN AND THE EFFICIENCY SYSTEM

lessness, for the reason that according to the servile custom of society, she is supposed to do for the child what the child would rather do for itself, if encouraged to learn the way, but will not so long as there is an easier method of arriving, and the spirit of play, or pleasant working of the imagination is lacking to rightly guide the hand. This of course would require more attention and intelligence than is usually employed by the average servant, but the rewards in later life from the right kind of care in developing initiative at the earliest possible age, would be of everlasting value. From the age of three, children should have instruction to make them self-reliant, not nurses to make them helpless. Just as little as possible should be done for the little ones if we are to have strong men and women, but everything in the world should be considered in relation to them; keeping their confidence and love at any cost by letting them feel they can be trusted. There is no human problem that does not center about the child, and no avenue of research requires more definite and adequate knowledge of Nature's ways. The younger, like the older generation, yearn for personal liberty, and as liberty we know can be had only at the cost of responsibility and obedience to natural law, instruction and perseverance to this end should be the goal of each day's training and not merely obedience to force.

Cleanliness, for instance, is a hygienic necessity and a sign of good breeding, yet the boy or girl had better be a little less clean, if it be the best his effort can do, than made habitually spotless by another. So the child should pick up his own toys and other articles, and place them in proper manner, not because it helps the grown-ups, for it is generally much easier to do it one's self than to persuade the little ones to the right desire, but because it is the Square Deal for the child, as well as everybody else, that he should take care of himself and his own, and have nothing that he cannot engineer in a way as not to unnecessarily occasion the discomfort of someone else. There are numberless ways of leading the young mind into such a conviction, and the time should be spent here, rather than in the nursing of the child's weakness, for if the principles of efficiency as applied to liberty and independence, be applied at the earliest

PRINCIPLES OF DOMESTIC ENGINEERING

age, there will be no problem of what to do with the child in the application of domestic independence, or the Efficiency System; the child will take care of himself, or herself, and do somewhat in caring for the concerns of those to whom he or she is related. The professional playmate would be a wise help just here; interesting the child to efficiency practice through the play instinct. A Day Nursery might also be incorporated under these principles, where children could come in contact with each other and see and take part from time to time in a proper system of pleasure, that would not produce the ingratitude and lack of reverence and sympathy the public institution is wont to do, where everything is done for the child placed more or less permanently under its protection, but rather through short stays and the novelty of change would it bring out the individual initiative to act more definitely at home in an auto-educational manner through the unfolding of the imagination to the value of the spiritual, as well as the material meaning of ideals worked out through the understanding of these principles, thereby giving a highly constructive outlet to that youthful energy so abundant in the normal modern child and so often dangerously repressed, or again riotously allowed to run rampant.

The Child and the Efficiency System belong together. The child because of being Nature's own material, and Scientific Management, because it follows Nature's form of operating. They are closely related, and everything that is related should move as one.

CHAPTER XI

THE BODY IN MOTION

*"And in man or woman a clean, strong, supple, firm-fibered body
is more beautiful than the most beautiful face"*

*"O! I say these are not the parts and poems of the body only, but of
the soul.*

O! I say now these are the soul"

The quality of bodily motion is one of the most neglected factors of every-day life. It is pathetic to see the average woman and man moving about in the business of living, with such utter disregard of the effect each movement is slowly but surely having not only upon the body, but upon the very consciousness of the inner soul.

"I don't care how I do it, so long as I get through," seems to be the prevailing sentiment among workers, while about those who play, there is an atmosphere of preferring mere pastime to any thought of improvement, and the leisure hours are either times of simple "don't care," or periods when the devising of the artificial and the substituting of the unreal for the real, seem to control.

The unthinking desire among women for soft, white hands, is an example of the latter, for while fine even texture, untainted by carelessness, or misuse, with delicate form,—the result of a sensitive and fully expressive mode of action,—is a feature to admire, the lifeless, inexpressive, colorless, meaningless, weak and undeveloped, limp member of a flabby and shapeless arm, so often seen among so-called Society women, is something to hide with shame, rather than to expose with the hope of admiration, because it is unreal in its correspondence to any right-balanced feminine conception. It should be looked upon rather as a menace to the real white hand as it should be.

We have said before and must repeat it here that—

In every motion there is a *three-fold motive*. Whether one

PRINCIPLES OF DOMESTIC ENGINEERING

is conscious of it or not, this triune effect is being indelibly made a part of one's entire personality, even of one's inner self.

First, a motive of accomplishment. Of doing the thing in the most direct and effective way.

Second, a motive of exhilaration, or health reaction; the result of a right conception of one's physical forces and their use.

Third, the motive of beauty, developed by the right feeling toward and for things, and a sense of grace and reverence within one's self.

Much time we know has been devoted to the easiest and best manner of *accomplishment*. It has met the pressure of necessity in competition, both economic and social. The conservation of human life is also demanding that *health* shall have first consideration, and ways and means are being devised in every field for higher bodily fitness in industry, as well as in sports, but we have met with almost nothing up to the present, that assures proper consideration of the conservation of the beauty-value in motion. To be sure, we have the dance, the gesture, the study of dramatic expression, and so-called physical culture, but they are all more or less detached from the work-a-day world, and are practiced by the few only, as a professional vocation, or a dilettante avocation. The fact that every movement, wherever and however made, never fails to make for a finer or coarser texture of the body, a more gracious and dignified bearing, or an awkward and slovenly one, and a fuller and richer expression of self, rather than the pinched and poor nature so often met with on life's rough way, has not sufficiently dawned upon the mind of the people generally.

But the importance of this motive is *paramount* in that it is queen of the three. It controls the finesse and the feeling with which the success of the other two may be gauged, practically developing a personality that is preparing itself for higher and higher achievement.

While the business of the world has called for "the getting of things done," the bodily cry has been for freedom from discomfort. All true value we know is centered in quality, and although Spirituality,—or the psychic sense of beauty,—is the

THE BODY IN MOTION

finest quality that endures, it is measured only by a feeling of charm in the personal touch.

Now what does all this mean to the house-worker? Why should it be considered important, and how can the element of beauty be made to play its legitimate part?

It means that unless home occupations can be made to give back the qualities most desired by women, they will forever remain common-place activities, accomplished from a sense of duty, or necessity, and in a spirit of drudgery. It means house-work will never attract the modern young maiden, unless it be made attractive in personal pleasure and profit, and it means further that life demands in the very cradle of its beginnings,—the home,—perfection in the midst of every-day happenings.

It should be considered important not only by the worker, but by all who would think and feel, to develop the highest motives that are workable in the so-called lower occupations, for they include the masses and the majority of folk. The home as a universal field of labor, should yield a forest of knowledge as to how to get the most out of work, and plant the seed of appreciation of the spiritual quality in all honest effort, and while the home-maker should consider the making of the home as her professional pleasure, the making of herself through her work should be the ideal of her every execution, not from a foolish or selfish sense of vanity, but because she is or should be the real charm of it all, and because the greatest educator yet known is *example*.

The element of beauty in personality can be made to play its legitimate part when it interpenetrates all that is material.

As there can be no life without movement, so intelligent motion is the most direct and effective developer of life's values. "Power through repose" is a virtue for the removal of abnormal tension. It is not the suppression of motion, for then we would not live. But as practice for a better control of movement, consciously controlled relaxation is superior to all other methods.

To understand one's own body from a motor standpoint is a first need. To know that although the law of gravitation keeps up a steady pull towards the earth, one can almost become like

PRINCIPLES OF DOMESTIC ENGINEERING

unto a bird in feeling. So marvelously constructed is man, that even without wings, he can have a sense of walking upon air. It is because he can hitch his nature to a star, and hold himself up with the most spiritual muscle of the body, the muscle of the diaphragm. With the front part of this muscle poised well over the great toe, and the back of the head holding up easily and lightly, an imaginary flexible string of pearls in the form of a readily adaptable spine, the poise for light movement is complete. Now add to this the thought that no matter where a motion may lead one, a high-up diaphragm and a pliable spine will follow, and the feeling that all right action has its first impulse in what is called the solar plexus, and a background for bodily motion has been started, so that whether dusting the stairs, or making a bed, this related position holds.

To accomplish the most, the body must be constantly trained to respond to the slightest touch of the mind, so there may be no time wasted in clumsiness, or indefinite action. The shortest possible distance between one's thought and the work done, is through a supple, pliable, responsive body, made so by the kind of thought and feeling applied.

Suppose one wishes to pick something up from the floor, why not bend down for it as lightly and gracefully as a child? It is not because age, or size prevents, for the actress or dancer who has both these, is as lithe and easy as need be, troubled not by having to move in this way, but it is in most cases because the body is not used intelligently, and often not enough. While to "live on the stairs," as some maids say they are expected to do, is not well, to constantly use an elevator and never lift the body up and down steps is a mistake in practice. A body should be exercised in all its parts every day, and the exercise should co-ordinate with the mind, that is, the thought should get from every motion all there is in it, through a sense of directness, a sense of exhilaration, a sense of *touch*. Every motion should be made to accomplish the very most possible, discouraging the fluttery, fidgety, unsteady manner of attack, so often met with, particularly among women, and it should be enjoyed to the utmost, as it cannot fail to be, the more perfect it becomes. It should be so contrived as to secure poise, expan-

THE BODY IN MOTION

sion, and uplift, so that a sense of health may prevail. Then it should in addition have within it the right feeling about what is to be done. Everything that is handled, for instance, should be appreciated for itself if possible, but at any rate in its relation to other things and to life. A common kitchen tea-kettle, if lifted as though it were a silver jug, and carried with the care of a rose jar, can be made to contribute not only to the efficiency, but the quality of one's movements. So the handling of delicate china and glass may be as rapid as though it were tinware, but it adds immeasurably to one's manner of touch. There is nothing absurd in developing a graceful sense of reverence in one's touch to be exercised in due measure upon the kitchen pump, the frying pan, or the loaf of bread, as well as the lace handkerchief, the choice book, or the piano keys. It is what it does to the person, not the thing, that is important, and to constantly have an attitude of quality for all that is outside of self produces in time the true quality in self. Such personal education not only leads to higher accomplishment, and better performed tasks generally—when time is not lost in affectation—but it has enormous possibilities for bodily culture in the ordinary household movements. To feel the spirit working and moving through the body, in contact with all things, and to have such practice a part of the every-day routine constantly with one, in the many times repeated tasks of the house, is a fascinating and very worth-while sensation, making an efficient body by the cultivation of a more active, enthusiastic, and discriminating mind in relation to the manner of bodily motion, encouraging a strong body through finer and more intelligent co-ordination of feeling and muscle, and a truly buoyant habit of breathing—the result of joy, expansion, and uplift—and developing a beautiful body through practice in the art of being filled with the character of the part to be played, with a delicacy, ease, lightness, grace, admiration, charm, and reverence throughout the whole of one's self, but especially in the feet and hands, and within the consciousness of the spirit of the motion itself. All this and more may be the legitimate result of housework, intelligently performed.

CHAPTER XII

THE BODY AND ITS GARMENTS

*"O fair undress, best dress! It checks no vein,
And every flowing limb in pleasure drowns,
And heightens ease with grace"*

Why do we dress? We are told for protection, warmth, modesty, etc., and yet history has it these were not the original reasons.

The first attempts in the wearing of clothes, according to the earliest records, were for the purpose of distinguishing rank, position, and birth, and the greatest number of coverings were worn not by those who were of necessity exposed to climate, but by the highest and most protected in office. While civilization has brought about all kinds of modern necessities for the wearing of various garments, these same fundamental truths still hold as the basis of fashion-changing, giving the subject certain psychic, personal and class-distinction meaning, rather than a solely utilitarian one.

A new style is started by someone in authority, and forthwith the whole world of the hour falls in line, almost without question, gathering such force in the current as to defy public opinion, the preacher, parent, doctor, and even law itself.

If beauty, or the truly æsthetic, were the initial cause of these often sudden and violent streams of fashionable rush, there would be little question further than how best to arrive at the goal, but unfortunately the novel and the commercial value dictate in very large part what shall and shall not be worn, until the woman feels herself a helpless victim upon the wave of the season's demands. And yet the rapid shifts of fashion have no doubt been of use in overcoming a native habit of conservatism that is truly feminine. She has moved on, often more rapidly than was comfortable to her instinct, through sheer dress competition.

THE BODY AND ITS GARMENTS

Perhaps if we probe deep into the woman heart and mind, we can find the real cause that first moved her to the thought of clothes, and then made of her a kind of slave, and perchance a way toward a new freedom even in dress may suggest itself. For "let me be dressed fine as I will, flies, worms and flowers exceed me still."

The woman who dresses as beautifully as she knows how to dress, likes to feel her superiority and her personality extended beyond her smaller self, and it should be all to her credit, for she may wish to devote this larger sense of ego to the highest and holiest of purposes, as in many cases we know this to be true. There have been, however, two sad, yet strong reasons why she has depended so greatly upon external material for this effect. First, because woman was supposed to remain in an undeveloped state as far as her mind and her worldly status was concerned, and leave to man the full exercise of all faculties, and also because her religion was interpreted to declare the body as of the Earth, vile and corrupt, something to live apart from and dominate as far as possible, and to take no real spiritual account of it at any time.

Human nature has always known these sentiments were not complete truth and yet it has labored under the yoke of a mistaken impression for generations. Men have placed women upon a pedestal where little activity, or comradeship, was expected of her, and where draped in gorgeous robes he could adore her in silence. With no thought of resentment, she has tried faithfully to do his bidding and return to him the happiness he deserved, but her pedestal has become intolerable, and her many changing robes are irksome, for the reason that she has not earned her own way to its heights, nor *found herself* in dress alone, and besides such placing isolates her from him she would be near. Far rather would she descend for a little, if need be, in his mind—though not in fact—and work her way back to this place where her real self can rest content with the thought that her own effort and her own charm can draw the man she loves up if need be to her true side.

Woman's dress is more than covering, and more than trinkets would suggest.

PRINCIPLES OF DOMESTIC ENGINEERING

It bespeaks revolutions and reformatations, and carries with it courts and fortunes. No great or definite advance in civilization but breaks away from its traditions of dress, just because it has within it a psychic something that makes it in truth a part and an extension of the personal life. The Body and its Garments, and yet how little the garment has been related to the body as it should be, the body of poetry, the body of free and beautiful action.

In time past, we feared to show the legs, and so to move as we would, they were disguised by a great hoop. Then the stomach and bosom must be bound out of sight, and have little or no motion allowed them. The abdomen becomes unsightly, and a lump is put upon the back as a balance. The neck and head is piled high, and the conspicuous arms and hands are draped in long folds and lace. The hips are enlarged, and again reduced. The back is hollowed in, and then rounded out, so that we never know where the next lump, or bodily depression will be called for. All in a vain effort to harmonize and symmetrize the female form divine, having a vague sense of physical fitness, but arriving at each realization through an abnormal and artificial route. Yet one may conclude that the present standards of dress have been the result of the evolution and consciousness of bodily form and that they plainly show the process of relying upon the garments to beautify and harmonize the woman into a moving poem, a false and unfair one. She must do the work in and with herself, and the true standards of fashion will come when the form itself is made a thing of beauty, and is draped to enhance its own particular and personal charm. Color, material, line and ornament will be so related to bodily expression as to be unfashionable, unless harmoniously combined. There should be a reasonableness in dress and an adaptation to use, as well as artistic effect, for the garment has an influence upon the individual, just as great, if not greater, than the person has upon the garment. This we find particularly true in the home, where if one is dressed with care and becomingness, one feels and acts in a more hospitable mood than if attired in slovenly manner. In fact clothes have a very marked effect upon the character and kind of one's work. An

THE BODY AND ITS GARMENTS

apron,—which by the way is a weapon of defense,—encourages careless and sloppy habits, particularly after it begins to be somewhat soiled. To work in a truly defensive way and not care what happens, one need but don an old degraded frock and “pitch in,” as the saying goes.

But why should one feel that old and mussy garments are more suited to a working mood? Is it not because of the mussy standard of housework that prevails? Little do we realize how greatly the mode of dress affects the manner of work as well as the movements of the person. To be particular with both, takes perhaps more time in each operation, but infinitely less in the clearing up process, and the more one works and lives under the influence of a high standard of dress, the more skillful and rapid becomes the nature of one’s movements. The writer has experimented many a time by preparing dinner in an evening gown, even with a train, and in doing a day’s washing, or preserving, in a fresh silk or satin frock, with of course no apron, and it has always contributed to the value of the work and not injured the gown in the testing.

One of the frequent questions asked in the servantless house is: “But who goes to the door?”, and, “How can you see people when you are in the midst of housework?” The writer, however, has never found this embarrassing for the reason that she works even at the crudest of household tasks, dressed as though at leisure, or at play, and always with a feeling of bodily self-respect, making the most of the fact that if a garment worn for a special occasion, lends dignity and grace to the scene, it likewise has its potent influence upon the spirit and form of one’s every occupation. Extravagant garments are therefore not extravagant when they are made to give a reflex educational value,—which they can do, to an astonishing degree,—but costly clothes carelessly worn, and valued only for vanity’s sake, are not only a wicked waste of money, but a menace to the wearer.

A woman may appear to dress a la mode, and yet with quite another motive in mind. Fortunate is she who can follow the spirit of the fashion; can read the inner meaning of the form and interpret the details, in relation to the possibilities of her own body, and not follow blindly and ignorantly every extreme

PRINCIPLES OF DOMESTIC ENGINEERING

that is in vogue. Perhaps the American is too ready to adopt and adapt the fashions of foreign lands, to think seriously of the creation of an art of her own. For the designing, the making, and the wearing of garments is a world in itself, and needs to be studied closely and intelligently if we would understand its fascination and its highest purpose, and not allow it to play a part that is dangerous to character and purse alike.

Particularly should the subject of dress be properly interpreted to the child mind, for the influence at this age is lasting and the impression strong, although the simple, loose, daintily designed children's clothes of to-day might teach the grown-ups a lesson in beauty. Of course the economics of dress is everywhere a controlling factor, but whatever is found to give a profit, is a good economic investment, therefore the amount of *profit* in dress should be our first concern, and whatever adds to the quality of one's activities, or thought of environment, or character is worth the price of such profit. The body first, then the garments, and not too many of them for health's sake. The beauty and perfection of the first whether at rest, or in motion, is the excuse for the second.

The slender, free, graceful, highly spiritualized body that is centered in the thought of beauty, is worthy the garment that would frame such a soul, for the superiority of this one is paramount, and the subtle extension of such a personality should be a blessing to all who behold.

CHAPTER XIII

THE TRAINING AND BEAUTY OF THE HAND

*"For through the South, the custom still commands
The gentleman to kiss the lady's hands"*

No writing on the Home from the personal standpoint would be complete without some consideration given to the hand, for this remarkable organ of the body enters intimately into the useful, the beautiful, and the cultural side of the house, and through its touch, brings together all that is of the external, to be played upon by the characteristics of the inner consciousness and moulded into form.

The value of one's individuality and the prophecy of its ultimate use in the world, is expressed perhaps more definitely in the hand even than in the face, for the reason that the features of the face may mislead through immobility, or the inheritance of certain mimic tendencies, while the hand has no such means of hiding its real meaning either in its shape or movements.

As the foot is related to the emotional nature of the individual, so the hand suggests the kind of thought and mentality to be found back of it. In fact the connection between the hand and brain is so direct, that what the fingers are made to do, reacts immediately in developing the mind. It actually seems to make little difference which is educated, provided the education is of the right kind, for mind-training that does not lead to action is abnormal and unsafe, and hand culture that considers merely the beauty of the external surface, affects the brain but in superficial manner.

Of course all hands have certain characteristics in common, and unless deformed, are alike in physical make-up; the same number of fingers, with their joints, the thumb, muscles, skin, nerves, veins, etc., with the required twenty-seven bones of the frame. Each has strength, a proportionate amount of skill, and a sense of touch, and yet we believe no member of the body

PRINCIPLES OF DOMESTIC ENGINEERING

possesses so marked a degree of individuality in character as the hand. No two pairs have ever been created alike, and no two people use their hands in the same way. A differentiation is always to be found in form and appearance. As the characteristics of the person are brought into use by each constructive soul, the hand is impressed with the kind of individuality developed, and the principle should hold here as elsewhere, of allowing and encouraging all the free personal expression possible, avoiding any set and mechanical methods, at the same time assuring a proper sense of realization as to the general and particular capabilities of the human hand, and the laws under which it may best operate.

Both the mentality and the emotional nature affect the hand so strongly that even its practical skill depends upon how these two are co-ordinated, for while it is largely mental in its activity, the will determines its doing. To understand just what its motive may be, why it should be animated by the highest suggestion at all times, and how it can be made to show, through cultural thought, the real refinement of which it is capable, is our present subject for consideration.

While the amount and kind of individuality of the hand is more or less of an unconscious happening, the mentality expressed is susceptible of a very high degree of training. To reduce the time between thought and hand action, and to constantly attend to the development of the latter, through a progressive enlargement and refinement of the former, is to give it an everlasting motive of intelligence, until in the truly trained hand, the thought and the carrying out of the idea to perfection, is almost simultaneous. The manner of doing, and the amount and kind of strength used, may be said to result from the quality of desire or interest applied.

If one has no heart in one's work, there is little of real value accomplished, particularly in personal expression; therefore the sense of touch helps enormously to first create a desire and then strengthen its impulse. The tips of the fingers are as the fine wire to be played upon here, for to the extent that one develops sensitiveness of touch, and makes this a practice, the interest is enlarged through appreciation and a reflex feeling of pleasure.

THE TRAINING AND BEAUTY OF THE HAND

The hand thus becomes more careful, dainty, and beautiful in habit.

The maid in the Kitchen should not be blamed for much of the breakage she causes, for the reason that her fingers are not trained to properly feel what she does. They are carelessly thrust into all kinds of temperatures, hot and cold alike, are made to "speed up" without the right kind of high-speed motive, and readily become through work, exposure, and lack of consideration, callous and irresponsible when applied to any fine use. It matters not what sort of work is to be done, the fineness of touch is essential in its cultural value. Take for instance, the handling of a scrubbing brush, or the wringing out of a clumsy cloth; the ordinary way to do such things is to apply a heavy force, and a spreading and coarsening pressure and movement, when they may be done even more rapidly and with better result to the person and material if a slender and intelligent force is applied, evenly distributed throughout the entire hand together with the feeling of enjoyment and reverence in the contact.

So with every form of employment, the manner of approach and the feeling back of it should be more jealously guarded even than the kind of work to be approached. To be ready to put one's hand to the plow is praiseworthy, but to know how to handle the plow, to make the most of its every possibility, and to be the better for having touched it, is an art to cultivate.

There is of course a certain technique to be learned in all endeavor, a kind of flexibility, an evenness of motion, the understanding of the right use of the parts of the hand, as well as of the whole as a unit, and the particular needs of each operation, but the crowning effort should be centered in properly developing the sense of touch in relation to them all. This cannot be too exquisite, or highly trained for *every* practical purpose, provided it is made to co-ordinate with all the characteristics, and co-operate in the system of training applied. It is not necessary to leave such an effect to piano study only, for the same result may come from the same method of practice in almost any field of careful cultivation. The quality, texture, and shape, or contour, of the hand are affected in proportion to

PRINCIPLES OF DOMESTIC ENGINEERING

the understanding, the kind of sensation encouraged, and the value of the motions persisted in. The human hand is distinguished in its movements from the fact of its having the power of opposition in the thumb to the other fingers alone, or united, and as the thumb corresponds to the will, so the manner of using this opposition is of moment. Again the first finger is of the mind particularly, and is called the Index Finger. The second, or middle, is typical of the individual, and helps the mind and will. The third is the art, or creative finger, the hardest to develop in practical ways, but conspicuous in that it represents directly the sum total of the man, his personality. The little finger is the psychic, or spiritual lever that completes the whole, and while it is the smallest in size, 'tis usually the finest in form, and when properly used has the highest amount of sensitiveness. The inner palm is of one's self; the outer, or back, the formal or social side. In the wrist lies the secret of all fine hand movement. This joint should have full attention, for it practically controls all the others. Its freedom, ease, grace, and strength is of great importance, and in every motion of the hand it should take the lead; whether in pulling, pushing, squeezing, or reaching, or the lighter, gentler acts of the arts, or the drawing-room, the wrist should be guided first, for only with the right power of oneness, will the right coming together of the parts take place. This, then, is the first thought of the hand as a whole in housework. To lift a knife, plate, rug, or what-not, the hand should be led by the wrist moving toward the object first. It should also be the reservoir of strength, and the controller of all the forces brought into play, for while the arm and shoulder, as well as the whole person, enters into each function of the fingers, the wrist is the telling point, never to be forgotten no matter how direct the need for action may seem.

The best way to use the hand in housework is to train it in the sense of touch so that the mind and soul may freely play through it upon every occasion,—mundane or festive,—with little choice as to what it does, compared to the decision of how it shall do it, the nature and the quality of energy enlivening it.

The beating of a cake, the setting of the table, the opening

THE TRAINING AND BEAUTY OF THE HAND

of the windows, or the carrying of garbage, makes no difference, provided the hand is used beautifully and made to give in full measure to the evolution and perfection of the life within.

While it is silly to believe applied care from the outside can take the place of the vital care of the spirit, it is likewise foolish to think all can be done from the inside. Both should have consideration. Extreme care should be taken to avoid touching hot or cold articles as much as possible, and to develop the power of withdrawing the feeling if such temperature contact is necessary. There is no excuse for unduly soiling and discoloring the hands, and although gloves, particularly those made of rubber, are not to be advised in general, when such need arises, it is better to use them than to deliberately disfigure the hand, although the hand that is full of life and vitality protects itself to a great extent by producing the right kind of moisture at the right instant, and smoothing the surface from internal cell building, but there are moments when nothing but a pumice stone fitted to the shape of the finger, and cleaned—repeatedly while using—with a stiff nail brush and soap can be relied upon to do the work in the time required. A simple lotion of half and half glycerine and witch hazel may be used to advantage if the hands chap, or honey and sweet oil, or lemon juice perhaps if the hand needs whitening.

On the whole the hand should be treated with more care and consideration than the face, for it is in the last analysis the most spiritual member we have, in that it not only moulds the way for the expression of the inner nature, but is also the medium of the most important of the five senses, in the making of environment and the proper living therein, the sense of touch. The cultivated hand becomes one of the greatest of human assets, not the white, inane, lifeless type, but the truly expressive member. No subject is more fertile in possibilities for education, in variety of expression and in being always a form of practice available, than the subject of housework. For the thing that has been condemned as a hand destroyer, when properly studied, understood, and enjoyed, is found in reality to prove a hand *beautifier*, and the woman's hand that is fair

PRINCIPLES OF DOMESTIC ENGINEERING

enough to warrant the kind of gallantry that has ever been its due, must adequately meet the requirements of modern feminine standards and become, through assembling all the virtues within its reach, the veritable symbol of righteousness in nature and in truth, ready and able to both rock the cradle and rule the world.

CHAPTER XIV

THE FIVE SENSES

*"How sweetly sounds the voice of a good woman.
It is so seldom heard, that when it speaks
It ravishes all senses"*

It is unfortunate that the word sensual is limited in its usual meaning to a voluptuous use of the senses, for we would have each sense and all the senses, so encouraged as to be *sensuous* in character, yet spiritual in nature. That is, a high degree of pleasure should accompany the exercise of each sense, an enjoyment for enjoyment's sake, together with a desire to absorb all they have to give, in order to use the result for still higher personal development, for as no one of the senses has any power to delight us except for the inner consciousness of that sense, so all may be divinely inspired, with an innate perception and contribute through use, to the bloom and perfection of the soul's highest atmosphere, and as far as we know, there is no word that expresses just this thought of sense-culture. For taken together they form as it were the very perfume of the inner life. Full of sense, or sensible, has a very practical sound, that suggests good judgment, clear reasoning, etc., but little that might be called exquisite, magnetic or psychic. Sensation, on the other hand, may but convey a thought of weakness, or of partial development, but the sensorium of the man, or the seat of perception, where all seven senses—if we have seven—co-ordinate and co-operate into a feeling of the man himself; the consciousness of his own being, full of life, within the temple of his own building, is, so far as we have been able to find, still unexpressed in a single word from the purely *sense* standpoint. Yet we all know this feeling. It is a part of the fulfillment of one's nature. It belongs to the complete realization of the soul itself, and is essential to its worth and beauty.

If therefore the senses play this important role in the growth

PRINCIPLES OF DOMESTIC ENGINEERING

and enrichment of the ego, as there seems no reason to doubt, surely they are worthy special and every-day attention, that the free, spontaneous response from a well-ordered and intelligently ordained environment may result, for it is the limitation put upon their use, rather than the conditions made for their enjoyment, that is the danger point. To cater only to physical taste or a pleasure in eating beyond one's normal need, instead of developing a higher and finer sense of taste that would give satisfaction in the psychic field, is the mistake. For the nerves and humors of the body require attention as well as the stomach, and when properly fed give delight to this sense greater than any full stomach can give, and in fact become master of this unruly organ, directing it to far greater comfort and satisfaction in its work.

The same is true of smell, if it be allowed to degenerate into a mere carping critic; through artificial odors and atmospheres it becomes a destroyer, rather than a preserver, of the body, for while its function, as we know, is of course to give pleasure, that is but a by-product of its real purpose of converting the surrounding perfumes into an inner charm that calls forth wonder-working in the entire circulation. The vital vapors and ethers that give joy to the nose of the wise one, are the protectors and accumulators of the best substance of life.

The value of touch is only comparable with consciousness itself, for it affects the entire inner and outer feeling of the body, making it comfortable, rested, and happy, or miserable, weary and wretched. The entire spirit of the man responds inspiringly to a perfect bed, or an invigorating bath, and is depressed and troubled or annoyed when in contact with irritating substances, and a state of feeling is often anticipated from what one knows will be the effect of touch, and so, endlessly are we acquainted with its marvelous workings, the value of which are educational in the highest degree. As a guide in the dark of the many worlds about us, mental, spiritual, or physical, it is the sense that leads toward the light, in temperature, and in texture, in contour and in atmosphere.

As to the eyes, they speak for themselves, for the sense of sight is the first and perhaps the easiest to cultivate, but the

THE FIVE SENSES

last to be satisfied. It seems to have the power both to push and pull the intelligence and understanding into new and interesting fields, and when properly focussed, forever furnishes the imagination and all other faculties with new food for activity. Color also is subject to this sense alone, and what unspeakable joy it brings! The wonder of a sunset, the gorgeous tones of a flame, and the beautiful shades of the night enter profoundly into the sensuous soul and fill it anew with life-giving strength.

Again one is lulled to harmonious rest with sound that is just to one's liking. Though music is an established art appreciated and enjoyed by most people, producing more of an actual sensation in the body than is generally thought possible, the sense of hearing is perhaps the most abused of the senses. It must endure the sounds that come within its reach, and the noises that madden the nerves and shock the whole person, and although one may reason one's self into indifference as to the greater part, and even a kind of pleasant appreciation of what seems to be a necessary noise, the irritating sounds of the civilized world, are little less than barbaric, for instead of bringing the human being into a unit of harmony, ever ready to vibrate to his own natural key in the universe, they scatter his forces, tension his life, and put him generally out of tune with himself and his entire surroundings.

Thus have we touched upon the possibilities of the five senses in order to suggest their best usage in the home, the environment of which should be a studied school of perpetual and inspirational suggestion, because no one can tell how important becomes the *material*, unconsciously but continuously being included in one's training, and having a permanent and reproductive effect upon one's growing character.

Special subjects and objects should be encouraged for the right exercise of each separate sense, and all the work of the house so ordained as to form a medium for the co-ordination and co-operation of all the senses in play upon each undertaking, making one ever alive to the possibilities of a personally cultural attitude by the opening of every avenue of one's being ready for an impressive intake and an expressive output.

PRINCIPLES OF DOMESTIC ENGINEERING

Again the universal consciousness of feeling that human nature has more than the five senses, is to be considered here, and the classic phrase of being—"scared out of his seven senses,"—makes it appropriate to inquire into the character of the other two. While the word sense is used in a variety of connections, as sense of time and place, sense of reason, of beauty, of imagination, the creative sense, etc., perhaps the latter, or the sex sense, might be called the sixth. And the sense of being, that consciousness of a completed whole, expressed in the sense of perception, or the intuitive sense, the seventh.

Surely the home is the haven of these, in the starting and establishing of their normal working, and the suggestion for their highest place and functioning.

The sex sense may be interpreted as the power of manifesting self according to the ability to produce after one's kind, and has a world of use as large as life itself. The male affecting the female into psychic expression, the female feeding the male for spiritual use, so that whether it be exercised in the creating of a poem, a home, or a soul, it becomes the vortex of the activity of a double trinity of sensation and is the guiding star in the upward and onward evolution of the race.

Although the science of eugenics deserves all the honor that is its due, the study and practice of a human and a sublime form of sexuality with abundant education along the widest possible interpretation of its functional usefulness, would do much to solve the problem of mating, by producing a higher quality of material with which to mate.

Intuitively we are but the result of all these animated parts, and whether at work or at play, whether in the home or out of the home, the sensations experienced are the developing processes that make it possible to be sure of one's self and one's attachments. To know things from the inside out, to enter into and to have control over the situation through actual knowledge acquired as to meanings and to evolve into a stronger and happier state or character by appreciating the senses as the real basis of spirituality,—for in the harmonious operation of the occult seven, and their spiritous practice through responsive emotional moods,—lies the secret of human charm, the beauty

THE FIVE SENSES

of human form, the delight in human presence, and the glory and sweetness of God's highest human gift, the gift of a rich, beautiful and expressive voice in speech.

"Oh! how wonderful is the human voice!
It is indeed the organ of the soul!"

CHAPTER XV

THE NEED OF BEAUTY IN EVERY-DAY LIFE

"Beauty is truth, truth beauty,—that is all ye know on earth, and all ye need to know"

"If by love and nobleness we take up into ourselves the beauty we admire, we shall spend it again on all around us"

While love of beauty is one of the great fundamental instincts in nature, love of truth may be said to be more or less acquired, in that beauty is an appreciation, while truth is a perception. To feel the charm of a thing, does not always insure knowledge, nor does the understanding guarantee the will to love. Still to truly exist with perfect enjoyment, one must insure one's self in an appreciative perception. Conform sincerely to one's being; to what is real in the facts of life, and to the rules of its acts in standard practice and ideals. In the same process one must appreciate the harmonious conditions of such diverse elements in unity. In other words, the æsthetic sense is not satisfied until it is delighted in sensation and enlightened in perception, for to be *true* in all respects is to be beautiful. The quality of beauty presupposes the element of truth. This being so, is it not important that such an emotion be given every chance for expression? For instinct moves into knowledge, knowledge into perception and perception into the higher and intuitive creation of the thing itself.

Beauty not only ravishes the senses and gives joy to the mind, but it evolves to best advantage the very innermost life, for when a thing is seen in the true sense of beauty, it relates itself to all that has gone before, and to a vision of what is to come. Even tragedy and torture, sorrow and accident, lose their horror when characterized in the setting of the whole of life's drama, for then their meaning is clearly creative, and death itself but the assurance of life.

If the value of beauty applies in a general way, it is found

THE NEED OF BEAUTY IN EVERY-DAY LIFE

to be even more truly productive in particular forms and shapes, as it is the element of all others that makes careful ensemble, or the bringing together of parts into a satisfying and centered oneness.

The school that is accenting beauty is founding itself in the deepest and strongest of motives. The mere external surrounding is perhaps but the shell. Although sooner or later it lends itself to the great business of character-making, and the child that is made to see and to feel the pleasure of an attractive environment—or better still is made to build his own—is fortified against the dangers of any ugly side in existence, both in thought and in act. For after all, everything that is not right is hideous, discordant and isolated.

All intelligent effort, therefore, should be focussed upon bringing out a proper sense of proportion and harmony, and attaching it to every interest in life, if we would assure moderation and temperance in the doings of the people.

Again, nothing can reach its maximum usefulness until it includes the element of beauty, nor is a thing beautiful that has no use, whether it be a woman, a vase, an idea, or a kitchen utensil.

The standard of beauty suggested in the Experiment Station, was such as to bring together the parts of each article into a charming and efficient unit of use and beauty, embodying form, color, proportion and composition. Each room was, as far as possible an expression of its best meaning through the harmonious grouping of standard parts and furnishings, and the spirit of the house bespoke itself in a tone of the higher personal life. Personal in the sense of being the result, or atmosphere, of an ever-developing personality. For the home is in truth the center of the Nation's æsthetic progress. Only that which is permanent emanates from here, therefore the totem of each house should have a beauty and dignity all its own.

Thus will this earth life put on a heavenly garment and extend its joy of being into the uttermost parts.

Where the true body will prove itself a form incorruptible, and all that is called work shall be given a new conception. Pleasure and profit will be cultivated in ever higher and higher

PRINCIPLES OF DOMESTIC ENGINEERING

forms through the spirit and love of beauty universally incorporated as a unifying force in individual consciousness, and a practical essential in all home life.

“One of the sure tests of a real home is that the very thought of it relaxes our nerves, mind, muscles, and gently and firmly restores to one peace, and faith in the goodness and beauty of God’s great plan.”

PART III
THE PROGRESSIVE HOME

*An altar place in which my heart can fire
Its social incense to familiar Gods;—
A refuge from the world's chastising rods,
To which the world-worn spirit can retire.
A nest built in the house-tree of the earth,
From which the focal hearth can beam its rays
To all the homeless in the cheerless days,
And reach in influence through the world's wide girth.
—Anspacher.*

CHAPTER I

THE HOME AND POLITICS

*"Who, born for the universe, narrowed his mind
And to party gave up what was meant for mankind"*

The fact that politics has a permanent and vital place in home-making cannot be questioned, if it is realized that government itself is but the management of the conditions and materials for the larger or collective home, and that the very word politics—derived from the Greek, polis, city—suggests a congregation of homes.

Unhappily, however, the subject is interpreted in two divergent ways. One, as those measures wisely planned and pursued in the interest of public good. The other, the devising of any means, right or wrong, adapted to an end—good or evil. If the home, therefore, is to endure in the midst of such confusion of political purpose, it needs must step to the front and replace itself with its principal concerns as the first, last and only real object of any government. Politics would thus become in popular practice as well as in words the way of administering the government for the general welfare. It would, instead of lending itself to intrigue designed for selfish ends, as is too often the case, in reality be a method of arriving at what is best for the prosperity of all the people, all the time. Political parties, as we know them, are merely groups of differing opinion, and although they foster prejudice and break up the thought of the country into warring and bitter factions, it is a psychological truth that there are two fundamental attitudes of human nature to be found here, as elsewhere. These might be called the positive and negative. The one, born of courage to risk and desire to move on; a growing, progressive, unsatisfied spirit, ready to give of itself if it can but push forward. The other, of cautious and careful demeanor, fearing to fail and preferring the present; a doubtful, a thankful, con-

PRINCIPLES OF DOMESTIC ENGINEERING

servative make-up. Both, in all their varieties, are essential to a healthy normal system, and while every man is more or less a mixture of the two, a party founded in principles peculiar to each would ultimately satisfy all types, instead of the present custom of forming temporary factions about a single issue, or a mere matter of method, which eventually must lead to partial thought and feeling and give occasion for political and national catastrophe.

Food, Shelter and Clothing are the three objects of interest in the State as they are in the Home. Other things are of moment that these may be arrived at, most cheerfully and conveniently, and in the last analysis the State is but the larger and more complex form of Home. Hence what affects the one, has a direct influence upon the other, and the management of one depends upon the standard of the other.

There was a time when the public had little to say as to the affairs of the household. The protection of property from assault, and the form of taxing in exchange for such service, were the principal functions, but now there is scarcely a subject that is wholly the part of the private Home, or that is not affected and moulded by politics and the government. From the building of the house, with conformity to municipal regulations to its inspection and the standard of material used, even to the last fixture and article of furniture placed, or the supplies purchased; from the gas, electricity and water, to the box of matches, and the bottle of milk, we have but to look about and discover the fact that politics is interwoven with, and affecting these things as never before. In truth, home-making can no longer be said to be a private undertaking. It is a public function, regulated and formulated by local and State authorities.

The School with its effect upon child-life is almost exclusively the work of political appointment. The Public Library again is the result of the State. And the Market, with its life-giving or death-carrying contents, is subject to law and official rulings. Our going and coming, the acts of one's neighbors, the railroads, the trolleys, the roads, are in the last analysis ordained and controlled by political factors, and designed to develop a locality

THE HOME AND POLITICS

in proportion to the intelligence of the officials and the kind of co-operation established. The larger and better housekeeping means efficient government, and the best possible talent for public office. In other words, the scientific selection of our political workmen, as well as proper training for their particular duties.

While there are many sides of the government that will forever require the masculine attitude, there are again other phases that can never reach any high practical standard except through feminine handling and it is the woman who should make them her responsibility.

Take, for example, the food for the world. While men can grow it and store it, women can best prepare and distribute it, for it is the woman who feeds the race, intellectually and psychically, as well as physically, and she should have guard over the market as well as the single table of her own home, for without the larger attention, the private effort is lost. Little avails in the most careful home-preparation even with all the virtues attached, if the substance has entered the door through any road of dietetic pollution. For thus her work is lost and the home much endangered. Again, she is the nurse, the protector and shielder of life, and succeeds best where the mothering, or nurturing function is required, from the creation of the child, to the organizing and bringing into being of an ideal, a poem or a world standard; her patience, her faith, and her sympathy are elements hard to resist, for they burrow deep into the heart of things, and thereby know the contents of all at first hand. So that while it is the function of man to provide and build, it is the duty of woman to guard and use. Indeed it is man's pleasure to capture and conquer and bring back the spoils to her, who will guarantee to him the best results. And for this world-fight he designs and produces the tools and weapons, the machines and plans, while she brings forth the occasions and the subjects for their use, and becomes skilled and elevated in their presence. She it is who raises the standard, while he makes the standard work.

If there ever was a time when the standard of politics needed raising, it is here and now. In every locality the demand is for higher and more efficient service in public affairs, in order that

PRINCIPLES OF DOMESTIC ENGINEERING

daily living may be healthier, happier, and more profitable, and while of course it is after all the business and result of the individual and his private life—for one reaps what he sows—yet on the other hand, the individual is almost helpless in the face of the standards of society and the collective thought. The only thing to do then is to unite and establish a form of new effort. The government is represented by only half the elements of human nature, while public welfare demands the consideration of all. The State needs the woman. It needs her if anything, more than *she* needs the *vote*. Men, even with the best intentions, strive hardest for those things that accumulate power and wealth, and neglect often entirely, the real issues of life. The child, its food and its life, are on the other hand, never forgotten for a moment by the woman of any feminine integrity, thus leading her back forever to the home complete, the thing for which government is designed and from which alas! it wanders far afield. The remedy is for both men and women to become active politicians of the right order, not the intriguing partisan, self-seeking sort, but the earnest and interested workers for peace, justice, and righteousness, the courageous champions of health and the doers of deeds that will count in child profit. Thus will the home never be forgotten in the spirit of the chase, but ever and anon move ahead in strength and progressive worth, enlarging its place in politics and public affairs by the constant raising of its standard, in the production of better citizens and the encouragement of a more perfect form of government. Then will the home and politics be rightfully joined together. The welfare of each, the concern of the other. Better homes will give us better government, and better politics better homes.

CHAPTER II

THE HOME AND SOCIETY

"The best society and conversation is that in which the heart has a greater share than the head"

From a bird's-eye view of the earth one would see the houses gathered together in groups more or less closely associated, according to the nature and locality of the settlement. The reason for this might appear at first to be a nearby church, a school, a railway station, or perchance a trolley—but these things come because of people, not before them. The real cause of a town's beginning has to do with air and site, the kind of soil, and always with the water; people follow these essentials, and they are of necessity the basis for the physical relation of homes, but another and stronger cause is found in the fact that the people within the houses, therefore the houses themselves, have a relationship that is purely social, drawing them together in a friendly and delightful way, as the spring of water draweth the traveller for refreshment.

And this is the side of the home we would discuss here, for it is the people, after all, that make a city. Not the buildings or the spires, high land, or lighted fires—but the hopes and ambitions, the joys and the loves, the industry and the needs of the human spirit, humanly related to its kind. These are the things that count in the drawing of people together, and the kind of kinship all homes have in common,—ready to respond and be moulded as sympathy suggests.

In the early stages of society we find the homes with the largest acreages, the finest prominences, the greatest accumulation of riches, or the lordly spirit of ownership, counting as the highest standard of achievement.

This developed a kind of domestic competition, that induced social strife and enmity and inevitably produced an atmosphere in which everybody, through trying to gain the most for himself,

PRINCIPLES OF DOMESTIC ENGINEERING

was unconsciously contributing a selfish and discordant part, that in the end reacted unfavorably upon all alike, making even the physical relationship less profitable than the natural environment seemed to warrant; various nuisances crept in, were allowed, and at times, even fostered, as useful obstacles in the progress of one's fellows, and things were done in the name of God and man that would have brought speedy ruin to the group, had it not been for the saving grace of that divinely human relationship of family and home. For imperfect and unlovely as this expression *may* appear, it is the factor in society that ultimately must connect the whole fabric into a harmonious and sympathetic oneness. The extension of the feeling of kinship and the realization of a closer civic and economic brotherhood, as well as a religious and social one, cannot but prove the actual interdependence of the community group.

In fact, so interwoven are the conditions that affect every home, that the character of one permeates, often unintentionally, the very core and body of another, making or marring its environment, and affecting the vital nature of the substance from which it is formed. The spirit of one home comes in touch with the spirit of a neighboring home, and lo! something happens, a new life is born, and the world is that much better or worse for the happening; thus a responsibility and a satisfaction is involved in all community contact, whether definitely determined or not, that should inspire a high order of activity in every undertaking,—the first, in that each act does so endlessly affect the whole, and the second, in the power of the individual to so influence others—for after all, power is a fascinating possession when rightly used and we find a home moves through the same stages of progress in this, as does the child; who experiments; first, using the space between itself and what it would acquire; second, trying to compass that distance by a directed movement towards the object; third, enjoying the success of arriving at what is desired, and fourth, the feeling of satisfaction in appropriating the thing unto itself, for its own pleasure. This makes of the social home a somewhat selfish center, but it may as well be confessed that selfishness at this stage of development is a universal showing of both the in-

THE HOME AND SOCIETY

dividual and the family, as well as the larger group, and needs but to be enlightened into altruism.

From a "society" standpoint the average home would entertain only those persons and connections who contribute to it a form of pleasure or profit. A small class are, however, awake to the fact of a higher degree of enjoyment to be found in the giving of one's self to those who need most a share in the atmosphere of an order of home above this type, and just a few there are who delight in offering their best to the end that the general and even unknown public, may profit thereby—and yet the process is the same as with the lower and more selfish form of home, merely the degree of expression is different, and the plane of action higher, because more enlightened. Each goes through the same stages of desiring, of moving toward, of pleasure in the acquiring, and of satisfaction in the extension of self. This gives all homes the same fundamental characteristics and problems, for all are touched alike by the same environment, even though differing in form and condition. It is what one *does* with a situation that is of importance, not so much how one is surrounded or affected by it.

The social home, like the individual, must develop itself from within, as well as allow itself to be drawn into sympathetic action by the play of society. Each day should find it a bit ahead in the game of friendly relationship, and this, of course, is not easy, except there be a strong spirit of kinship and family co-operation, as well as an intelligent and united social effort, for the comfort and happiness of all.

The real use of society is the chance it affords for the multiplication of human emotions and their results. If a man is ambitious, he becomes more so when in contact with the ambition of other men, or if inclined to be intellectual, his powers become quickened in thoughtful debate or discussion with those of his kind; pleasures are intensified by summing up the delights from all sides, and activity becomes more effective when varied in interest and contributed to by a number of motives. Society in this sense becomes one of the most potent factors in the development of a life, be it single or collective, and should be taken seriously, to the extent of keeping guard over its creative

PRINCIPLES OF DOMESTIC ENGINEERING

and constructive functions. It should be the interest of all to see to its spiritual caliber as well as its outward form, for its influence in good and evil is tremendous, growing from day to day, as each contribution may suggest; hence how important a role the community has to play through the ever-developing social home, and its active society members.

For the ever-developing home is the progressive home, the growing home that constitutes the finest social unit,—conscious not alone of its own existence, but of a self-direction in the unfolding of a life that is constantly increasing in power, appreciation, and breadth, operating on a plane that is moving ever and ever onward, creating from day to day, newer and happier standards; not by drifting along in a social order that says guard well your own class; keep within a select circle; return your social obligations by formally entertaining those who have entertained you; above all make an effort to climb into the set that will best gratify your sense of worldly possession; but rather, by welcoming each experience and every individual into a place of understanding in the building of a social organism. This requires a consciousness of the law upon which all true society rests, the highest type of which is the organic and creative consciousness, the law being that every part of the universe is so intimately related, no portion can properly exist by itself. Discovery, however, puts things in new relationship, and this constant change,—we call progress,—is moving toward more and more harmonious and effective relation, for right relationship is the secret of all human power as well as mechanical. An engine that is properly related in all of its parts is a higher medium of force than a hunk of iron or steel, just as a man who has come into contact and sympathy with every order of man and knows his relationship with each, and his place among all, is a higher and happier human factor than the one who knows only the isolated kind of his own exclusive type.

Fashion and customs have tried hard to establish a society of snobs, and a home of personal and selfish luxury, but the best in human nature is never content with such a standard. National fellowship spreads its wings and flies to the heart of its kind, and wealth and comfort become unhappy burdens un-

THE HOME AND SOCIETY

less put to the active use of some splendid idea. The abuse of great forces foretells the use, and as society initiates the first, so the social unit declares the latter.

In the small circle rests the hope of the future, for while the large body has greater capacity and variety, it is not so easily moved to new life, for the reason that it is hard to develop a high order of consciousness unless the reasons why and the right feeling be given close and concentrated attention and study, and such concerted action is more easily arrived at in the smaller group. People come closer together, understand each other better and sympathize more readily, thereby co-operating in time more effectively.

The great social body is apt to make one feel his own limitations and insignificance and reduce one's sense of power—while the small group encourages growth, independence and importance, and reveals the truth of the greatness of the individual, through the personal results in coming closely in touch with the few.

One constructive, courageous, and idealistic member of society, can, if he chooses, so mould the lives and conditions about him as to affect not only the present age, but the life of the universe, in the ages to come.

The home influence of course, should hold the balance between the too exaggerated sense of personal importance and the conventional order of society that would destructively swallow up all initiative, originality, and freedom of action, for either extreme brings social disaster.

The obligation in every act would normally consider first, the welfare of the family and the individual members; next, the community or the social groups; then the public or the civic body, although frequently we find it imperative to think and act inversely as it were, and work from a public motive or a large general social point of view, in order that the individual member of society may best reap the benefit. The highest social standards—which of course all *hope* to approach—are those that include a consciousness of the whole universe in every act; a rational connection with the past, an intimate feeling of the present, and a vision or perception of the future conse-

PRINCIPLES OF DOMESTIC ENGINEERING

quences. This might suggest a labored and over-serious attitude, were it not for the fact that of himself man can do nothing,—he is but a mere puppet,—but with the right sense of the great creative force back of him, in him, about him, and through him, he becomes in truth a living God, a fit medium for the expression of his own spirit, through coming in touch with the spirit of his Maker, thus his acts are free and spontaneous, for while he feels a sense of responsibility to be an ever-ready and active medium for the highest force, he throws all care of result from his imperfect order of management, into the larger order that is of creation and that permeates even into the midst of every trifling circumstance.

An Efficient Society, whether large or small, in the home or out of the home, is one whose ideal is to understand and enjoy human nature wherever found; because it expresses God in this world more nearly than any other form of life we know. It would interest itself in the greatest pleasure and wisest form of social contact and would study how best to appreciate the virtues of each and eliminate the vices of all. It would give everyone an opportunity, a chance to enter the inner and higher circle of greatness at all times, but would receive none who had not proved worthy through his or her own personal effort; neither blood, money, or influence would count. Only the merit system would prevail. Proper records would classify the people of a community, and every possible encouragement and help would be given those in the outer circle. Pleasures and entertainment would be constantly planned and carried out with the purpose of giving a fair chance to all. It would be the delight of the few to plan for the profit of the many, and the conditions and the carrying out of these plans would be as perfect as the whole society could determine.

Thus would the home and society purify itself, and the efficient society members become the highest type of social unit, encouraging a brotherhood with one's fellow-men through a hearty desire to understand and enjoy human nature and the fact of our relationship to each other being the most important thing in life.

CHAPTER III

EDUCATION AND THE HOME

"Real education starts with inspiration, leads to action, and ends in satisfaction of teacher and taught"

"The household is the home of the man as well as of the child. We owe to man higher success than food and fire. We owe to man, man. If he is sick, is unable, is mean-spirited and odious, it is because there is so much of his nature that is unlawfully withholden from him"

At first thought it may appear that the education of the child, along with many other of the requirements of the earlier family life, has passed out of the domain of the modern home altogether and into the public stock of social supplies. The community having assumed the responsibility, the parents are thus relieved of any serious need for effort, save among the few who may choose to maintain personal control for special purposes. This change is the result of the idea that all such work is better and more scientifically performed by school experts, skilled especially in pedagogy and the study of child life, coupled with a more or less theoretical knowledge of what is most needed for the carrying out of the policies and principles of the collective national life.

It is undeniable that great good has been accomplished by the separation of the school from the home. It has helped in broadening the point of view, giving a certain discipline to the mind in action, reducing the similar human elements and ability to a common denominator for more uniform action, and bringing about a closer democratic relationship between the people of the country, just as infinite benefit has come from detaching the various industries from the home, certain recreations, and religious rites, thus making the church stand for the Christian training of the people. Yet this sort of divorce from the natural heart center, carries with it grave danger that can only be overcome through realizing the mean-

PRINCIPLES OF DOMESTIC ENGINEERING

ing and function of the true home and its place in society, and taking a more live and growing attitude toward the thing we call education. There are but few fundamental bed-rock facts—as it were—from which all conditions result. A creative Force, called God. Human existence, as the child of God. The earth the Mother, and natural law and order the teacher and guide of the soul. The origin of the family group is thus rooted in life itself. The seed is of the man; the environment for its development, the responsibility of woman; the growing product or result, the child and all it embodies. Together these three elements form a nucleus, or center, called the *home*. A live and complete cell in the great body of Existence, where everything that is brought into contact and assimilated, passes into the life forces that make up the soul and vitality of this organism, thus developing its form of usefulness. The danger, therefore, in taking away any of its native functions, is in making less fruitful, less healthy, less normal and therefore *less active* this genetic social cell, and substituting a kind of public machinery for the performance of what should be accomplished through the integrity of the family hearth. For unless the utmost care and interest is taken, the school becomes an institution; lifeless and soulless within itself, performing a routine of duties more or less in the spirit of drudgery, and grinding out mechanically a common and uniform mould of character with no particular understanding of itself in relation to the surrounding life.

Education should develop the imagination to bear upon life, but the average student not only uses this faculty very little, but is totally unconscious of any native ability to create a life of his own, merely by the practical application of a trained imagination brought to bear upon the most mundane and commonplace material at hand.

* An institution is by the nature of its formation an organization, and an organization can be at best but a tool, for it is designed by adding together parts, and operates through manipulation, as any other machine, and not by absorption, assimilation, and the *creative* sense of an organism.* The difference being that found between a live, organic functioning body and

EDUCATION AND THE HOME

a dead, inorganic, revolving machine. So that only in so far as organized institutions are constantly vitalized through the consciousness of their spiritual relationship to the whole of life, and their particular function therein, conformed to an ideal, and operated in a free and spontaneous method in producing the highest form of human expression compatible with the times, are they safe appliances in the hands of civilization. So much for institutions in general, and the church and school in particular.

Now, while the home may be called an institution in one sense, and while it needs above all things to be reorganized, the institution is of God; a natural grouping of the creative forces into the one live unit of society, and the organization needed is in the establishment of a workable ideal that will make it possible for this highest form of social cell to normally and efficiently perform its particular part in relation to the entire universe. For the home is the life cell of the world, and will endure so long as the earth itself revolves.

Therefore, instead of its being simply "the woman's place," as it is called, it is the *only* form of atmosphere in which men, and children as well, can develop their best powers, and its entire perfection is the only orderly educational foundation and means of growth for *any* nation.

The point to hold in mind then, is the danger in performing any operation that may reduce the home's inherent efficiency, or cut away one part—even in thought—that helps to make up the complete body. What then is to be done? For it is clearly evident that no one home can effectively include the needs of the whole universe any more than an individual can compass the myriad of subjects brought to his isolated attention. The answer is, not that the work of the man-designed institution must come back to the home, but that the home, to save itself and them, must go forward and out, to regenerate the institution. These should become home-like in the right and big sense, encouraging the greatest freedom of action and expression, through intelligent personal human understanding and sympathy, establishing a kind of discipline, the result of willing conformity to law, and giving to the other fellow the same

PRINCIPLES OF DOMESTIC ENGINEERING

opportunity one would have for one's self, and the creating of an atmosphere that will best bring into outer activity the complete being of the inner soul of the child.

The word educational means to draw out, although the average school strives to put in, leaving the home to make the useful application. Perhaps there is no situation where old and young alike may be so readily and normally drawn out into natural and original expression as at the family hearth, and the family table of the truly home-like home. And as to the hours just before sleep, they are actually impregnated with future possibilities for both mind and heart. The most fertile moments for mother influence in the whole calendar of time.

Of course these particular features are unthinkable and unpractical in the midst of great public groupings of people, whether it be the children in school, the church, or state associations. The idea being that it is not so much the small circle, or the hearth and dinner table, as what these things stand for, and have stood for through the ages; the common purpose and intimate understanding of each other in work and play; the proper quality of food and nourishment needed for each group; the restful confidence of the evening hour,—the result of kindly interest, good-will and inspiration coming to the surface and the very heart of the hearth—which gives warmth, confidence, a sense of protection, and the live spark of individual initiation, encouraged into action. Such a condition is neither visionary, nor impossible. On the contrary every institution in the country is wishing for higher standards of results, with less cost and waste along the line of operation. And as we view it from the home standpoint there is no possible way of arriving at this desired end, except by extending the essence and interest of the home into practically every public undertaking. Starting with the *State* itself as the private *home* of each family; the City as its threshold, and the house the immediate place from which and in which the home-consciousness and home-sense is brought into being, nourished, and developed. Here belong both the man and woman, and all they represent; different in function, but the same in purpose; different in ability, but the same in desire; different in method, but the same in object; dif-

EDUCATION AND THE HOME

ferent in thought, but the same in progress ; different in feeling, but the same in life. Until these two work just as definitely together and are as much *at home* in the making and moulding of the City, the State, and the Nation, disorganization, disorder, and discontent will be rampant, ending in riot, disease, and war. The feminine element is needed in public administration ; tragically and positively needed. Women should realize that they have not been relieved one iota by appropriating modern inventions, comforts, and materials ; they have but changed their plane of functioning. It is as necessary to know and have a part in the way of manufacturing the foods and supplies made out of the house, as it ever was to know how to cook the bread and meat in the house. It is as essential to watch and take part in the making and moving of the policies and methods of the school, as it ever was to teach the child at the knee. It is as important for the woman to create the atmosphere of the larger home,—the State—through direct management of its parts, as it is for her to preside over the results of the various departments in the smaller home of the house. The demand has come. It is here. Everywhere we are suffering from an artificial and abnormal world built up with half its elements and only a part of its organs. Men are splendid ! And the institutions are wonderful ! But men are only *half* the world, and institutions, in so far as they are institutions, are heartless, lifeless, soulless tools, brought into being as Frankenstein was, with the same danger of falling and crushing to pieces all within their reach. Nitrogen alone is dangerous, but united with its natural elements, it supports life in the air.

But let us not be deluded into the idea of thinking that women are the missing link between the now and the millennium. The missing link is not the *women* in themselves, but the higher appreciation of both men and women as to their co-operative possibilities in all relationship. Man must learn that environment is as important as the divine seed of authority. Woman must further cultivate and apply the larger home-sense as it includes the universe, and rid herself of pettiness in action, smallness of vision, and *all dependent* thought and feeling, and learn to administer her own home in the spirit of a domestic conqueror

PRINCIPLES OF DOMESTIC ENGINEERING

—through a more complete knowledge of its elements—not letting it harass or *control* her. She will then be prepared to be of real service in the better efficiency of the State home, and to express in herself the true religion and ideal of democracy, which we are only beginning to crudely interpret in this country, where we will soon find it necessary, it seems, not only to develop and preserve this form of government for our own safety, but in the light or darkness of what is now happening in Europe, America must be the example for the whole world, of *successful* republican administration and democratic realization, through a progressively practical *idealism*. The *women* must come to the front and willingly shoulder their special responsibilities, in order that the men may not have to *go* to the front and subject themselves to inhuman tools for mutilization. Women are the creators of *those* soldiers' bodies. Are they not *then justified* in *declaring* that their sons *shall not be thus wickedly exploited?*—*human victims* in the hands of PERSONAL PRIVILEGE. Subjected to *atrocious* fool-methods for the attempted righting of public wrongs. The conservatives tell us war is inevitable, but we know it is brought about by long time unright policies, and unnatural divisions; therefore men *promote* it. Surely women are needed as watchful and active guardians of these permanent policies, for if everyone opposed to war is not *active* in such opposition, he or she becomes one of the causes and helps war to be.

And let us not think *ourselves* secure, or one whit better than the world's scientific standard—Germany. The art model—France. Or the commercial and civilizing English center. For we are made of the same stuff, and subject to the same emotions. They are fighting for power, believing it will bring them freedom. We are struggling for freedom, hoping it will bring us *power*. Neither is right at the core. What we must all fight for, men and women together, and the children as well, is the Freedom that cares *not* for power, so long as it is *true* in itself: wealth and greatness being mere incidents by the way. It is certain that Freedom is the goal, but obedience is the method, for there is no Freedom that is not of God, and no way of arriving thereat, save through a practical schooling in human

EDUCATION AND THE HOME

relationship, united by ideals for motives and co-operative effort as the means. The same love of God, and brotherhood of man, translated as freedom of the soul, and interested service for the like freedom of other souls. Power we know is no longer understood as God-like. *Love* is the divine Creator, and love, to be real love, must be *free*.

We are becoming emancipated from the medieval form of obedience founded upon fear, and are beginning to appreciate an obedience founded upon love, but the transition is a delicate and confusing one. Children are being freed from the fear of parent, teacher, and priest, only to find themselves in a state of little reverence, respect, or deference for anything; and parents, teachers and pastors are wondering *what* to do. Is it not our fault? Do we hold things in such reverence as to be living, modern examples to the new kind of youth? We must open up more avenues for expression. There is no such thing as negative goodness, and the child with normal energy, who obeys the law because he knows its meaning, is safer than the one forced, or authorized into obedience. The trouble is, children are not made to *understand* the law and thus come into sympathy with its workings. Self-control, cause and effect, and personal relationship, can be taught even in the baby age, thus making these elements second nature to the boy and girl. All education is tending in this direction. For while we realize education should never stop at any age, the school is becoming more intensive in its form of cultivation, reaching back from the primary to the kindergarten, from the kindergarten to the nursery, from the nursery to the right conditions for the Child that *is* to *be* born.

Such honest effort, together with the training in how to do things, how to look upon things, and how to make the most of one's self, in the midst of what is now condemned as the common material of every-day life,—beautifying and dignifying one's surroundings in the process—is the kind of co-operation needed between the home and school. The *State* is the solution, as it has of its own initiative become the home of the people, taking over the greater part of the food, clothing and shelter conditions, educating the children, caring for the sick and infirm,

PRINCIPLES OF DOMESTIC ENGINEERING

providing the means of transportation, and helping to encourage more and more the means for greater culture. To have this plan of civilization succeed, it must become the great concern of every individual *citizen*. The seed has been planted for the larger and richer home. The environment must be created, and the hearth and table made ready for the coming of the longed-for child—Freedom—whose life can only be secure and true to itself where Love of God, of Man, and of Home prevail.

CHAPTER IV

MUNICIPAL HOUSEKEEPING

"There will never come a time when the most direct means of promoting health, education and opportunity will not be through government"

A civic conscience, commonly called public spirit, expressing itself in action rather than criticism, is a flower of such rare occurrence as to deserve special attention from home-makers, careful nurturing and greater appreciation.

To feel one's City, or Community, a definite part of one's self, to realize the power and effectiveness of united sentiments, standards and situations, and their reflex influence upon the individual, is the thing of prime importance in creating conditions for the individual's profit. Environment is a factor of such tremendous weight as to seem at first all-controlling, when viewed from the standpoint that the whole of nature seems to be occupied solely in trying to live and protect itself amidst conditions that exist contrary to its will. Yet these seeming obstacles about us are perhaps the wisest provision of Mother Nature, in that they are the ever-ready means for the development of a much-to-be-desired personality. The extension of self from a cramped and meager consciousness to a complete god-like and self-directed existence.

But while there are always at hand innumerable opportunities for such development, nothing is effected unless they be actively grasped and made fertile by those who would wisely build into the future, through making the most of the present. It has been shown by psychologists that there are but six motives moving the human soul to action—Health, Wealth, Sociability, Knowledge, Beauty and Rightness—and that every interest of man projects itself from these. If this be so,—and there seems little reason to doubt such an analysis—then the concern of the group is identical with the concern of each personal unit, for is

PRINCIPLES OF DOMESTIC ENGINEERING

not every man in search of health, wealth, sociability, knowledge, beauty and rightness? And where shall the whole be found except in co-operative practice? He who arrives at a monopoly in any one of these fields, or who would live to himself at the expense of others, forfeits his claim by the action of that simple and authoritative law—"No man liveth unto himself alone." In such action he would starve and die, for the soul possesses only that which it gives. The psychological miser is more despicable than the money hoarder.

While the average home endures but for a generation, its influence in the city is more definite and should be more potent than the most public spirited of any single individuals, for the reason that it comes in touch with the city from a larger number of sides, has a greater variety of purposes, is a more permanent factor and provides the best of schooling in effective co-operative effort. Its motives are the same as the motive of the single soul; neither do they differ in the least from the motives of the collective soul. Upon slight reflection we find the City, State and Nation all actuated by the same identical six ideas, differing only in form, degree and the method of arrival. The unit housekeeper in her effort to realize these desires, is unconsciously establishing standards of municipal living and of municipal housekeeping. Health, Wealth, Sociability, Knowledge, Beauty and Rightness are City aims, just as they are personal and home ambitions. The road of arriving varies with the character of the town. The degree in expression, of the ideals to be supported, and the manner of approach, assumes its form through the variety of individual temperament. In this last we find the greatest cause of discontent. It seems to be as hard for Cities to agree as to the right way of procedure, as for families and individuals. So that the united effort should be: First; to understand that as everybody is practically after the same thing, the pressure and pull should be together: Second; to determine what is possible of realization: and Third, to so educate ourselves as to know what truly is the best road to take to fulfill the purpose of the life of the City, for the City has a life and a soul just as surely as the life and soul is in the body of the home. And the individual home that

MUNICIPAL HOUSEKEEPING

does not contribute to the vigor of the City by helping in the larger work, and joining in the public play, is insufficient in itself and a distinct obstacle in social development.

The larger businesslike methods are needed for the operation of the modern progressive home just as the closer sense of co-operation, sympathy and responsibility of home effort is needed in municipal affairs. A right kind of emotion too, is as essential in public work as in any private undertaking. A Cause should be as absorbing as self-preservation, for in truth they are one and the same. An individual may declare he does this and that of himself, or he would do thus and so, if in power; yet in reality City standards are the result of what he is right now, and what he and the people actually want and are willing to help to realize.

Hospitals, Reform Schools, Jails and Alms Houses are desired, because it makes people uncomfortable to know of, and to see, suffering, and when this demand is supplied, a kind of philanthropic pride and callous inactivity settles down upon a town, until either scandalous abuses, or insufficient housing wakes the lethargic into new effort.

The fact that all such institutions are disease spots in the body politic—frightful cancers that eat away the City's substance and feed upon themselves, establishing a kind of contagion from which no member of society wholly escapes—does not seem to occur to the average citizen. In the efficient city these things will be reduced to a minimum, for they are a form of waste, in the worst sense of the term, human, unnecessary waste, opposing not only the six motives in progressive development, but the final goal in creative perfection. If we would study ourselves and our lives from the highest standpoints, harmony and health must rule the day. As the body is the result of one's own acts, so the City is no less the result of its own making. Sewers and Housing, Streets and Sanitation, the Markets, Recreations, Education and the entire environment, when approached with a high ideal and an intelligent businesslike determination to produce and invest in each and all, for efficient *human* returns only, will be the means of wiping out such disease and suffering as poverty, ignorance and crime, and thus

PRINCIPLES OF DOMESTIC ENGINEERING

the building for their refuge,—as the rays of the sun clean the poisoned atmosphere and brighten the lives of the people.

But co-operation is the only road to take. This cannot be repeated too often. Co-operation in municipal affairs, co-operation in home concerns, co-operation of home and city. Men and women, and even children, must learn to have a greater interest in, and a love for their City, by having a more direct part in its government, knowing all sides, and doing their best to bring about more perfect and healthy every-day living conditions. Aside from the pride of a City, and the desire of its people to have the best there is, and so be equal to any other town of its kind, the object in a "City Beautiful" is to arouse among its own inhabitants a greater love for, and interest in their home-town. An orderly, restful, good-looking, and at the same time live and active town, is more highly thought of by guests and natives alike, than a careless, unenterprising one. It is a pleasure to feel one is living in such an one, that one breathes its air, is a part of it and has helped to create it, and it is a joy to return to it on every occasion.

City planning is perhaps more directly a business undertaking. The economic advantages are considered and the natural growth more readily guided by those who have it in charge, but from an efficiency standpoint, from the standard of development, ideals, and results, the element of beauty becomes a wise and progressive necessity, and one that should never be neglected in any serious city-plan interest.

The Government that concerns itself with the true welfare of the City, takes account of all these phases of that one great purpose; educating the people constantly to want what is best, while they decide what their standards of municipal achievement and opportunity shall be.

CHAPTER V

ORGANIZATION OF THE CONSUMER

"The housekeeper is the great factor in determining the use of Agricultural products, and more important still, in her hands is the welfare of the family and the state"

The increasing importance of the home-maker as consumer, carries with it so great a moral responsibility for the woman in her civic association, that it can only be adequately met through a collective effort to intelligently fulfill this function, in order that each may act effectively in furthering the prosperity of the community. She it is who spends 90 per cent. of all that is spent for food, shelter and clothing, and she is the last tribunal in determining just what these things shall be. Her interest as consumer covers the home and the farm, the town and the country, and is interwoven with the people and the conditions of each. In the days when she worked in the fields with her own hands, and helped to produce the material for the home, she combined in herself the three functions of producer, consumer and protector, but when in time she had to buy many, or all of the commodities used, she assumed a new role, that of purchasing agent and business manager, when instead of knowing how to produce the raw material and the various forms it might take, she needs must become skilled in selection, in judgment, and in the value of the manufacturer's standards.

Individually she has been untiring in her demand for variety, her search for novelty, and her abundant use of the many things offered, but there has come a time when she is weary of choosing for a fastidious family. She is confused with the complexities that have arisen, and is tired of giving herself and her money to so many things that are fruitless, but finds herself helpless in the grip of the manner and custom of her environment. What has been sowed singly is being reaped collectively. And the one who would have the things truly worth while, is powerless in lieu of the general demand.

PRINCIPLES OF DOMESTIC ENGINEERING

It has, however, become a simple matter to gather a few interested ones together, who are of the same mind, and effect a campaign that arrives at the thing desired, by sufficiently impressing the public mind. One of the leading and lasting benefits of the Woman's Club is the fact that she has learned from practical experience how to organize. The sense of organization acquired in the practice of pulling together in a subject of mutual interest, is worth all the failures involved. It has generated a feeling of power and ability to accomplish the big things impossible and unthinkable for the individual alone, even though in the final effort it is the individual that moves the mass. The study of standards in a community would be an appropriate and interesting club program, and when entered upon with a constructive and co-operative spirit, of enormous value to everyone. The organization of a Board of Buyers to help each other in the search for better material, as the Board of Trade are associated for better business, would help and at the same time assure quality.

The work of the Housewife's League in trying to establish the sanitary conditions about the shop and marketplace, and particularly in establishing Public Markets, is an effort in the right direction, but more work is needed and a broader influence required. One that will reach from the knowledge and practice of agriculture as it touches the home and the State, the condition of the roads, and the methods of distribution, to the values found in the shop;—the whole matter of consumption and efficiency in selection,—that will assure the lessening of waste, the guarantee of a hundred cents' worth for a dollar, and the increase of real substance.

We know that the consumer, distributor, producer and Government must come together in any permanent effort to reduce the cost of living. And that it involves everything from the present unjust system of monopoly and taxation to the luxurious habit of having one's boots buttoned by hired labor, and the demanding of fresh strawberries and cucumbers in January. Nevertheless it is the question of moment for every man and woman in the country, and the writer is not sure but that the women in the case hold the *only* key to the situation. It is said,

ORGANIZATION OF THE CONSUMER

and wisely, that if every woman in the country would put herself in a melancholy black garb, during the time of war, refuse to bear children, or to speak even, peace would be declared within a week. So, if every woman refused to buy adulterated foods, or inferior materials, such goods would vanish from the market, just as the price of eggs and butter went down in New York City when The League refused to buy, even though but a small fraction of the housewives denied themselves these things. For though men provide the money, women in truth hold the purse-strings and decide as to expenditure. Therefore it may be that the women are the missing factor in the many ineffectual efforts of the Government to solve this question of the unnecessary high cost of living. Each enterprise needs her active co-operation, and she perforce has no voice in the affairs which she most controls.

Again, her responsibility is noted in the world of Art and Literature.

In the nature of things these subjects are becoming more and more democratic in expression. Instead of selling books and pictures to the elect, the few who have through culture and education learned to appreciate art values, our artists and writers have to struggle often in a tragic way to sell their results to managers and editors, who instead of demanding what should appeal to an educated public, have only in mind a large class of careless women who look to the name before they admire, and read only what is labelled with a signature, commercializing the creative faculty and the spirit of art to an extent that is death to true originality, talent and honest good work. And yet, the otherwise social woman does not realize the part she is playing in this wreck of young geniuses, who long to work for the best that is in them, but who are stabbed at the start by the character and kind of public demand for which our—in other ways—conscientious women are really to blame.

Much organized attention is given to the poor and the sick, and splendid work has been accomplished for the uplift of many classes, but it seems as if the women of the land have been too slow in organizing in their capacity as consumers, to help the

PRINCIPLES OF DOMESTIC ENGINEERING

equally pathetic struggle that is constantly going on higher up, and for which she as a consumer is responsible, because she is the final cause. Her carelessness in food standards has indirectly made it possible for the United States Government to give the decision it did in the "Lexington Mill Case" and allow both ignorant and unscrupulous food manufacturers to dope their goods at will,—the standard of the amount of poison being optional,—punishable only by the producing of those who are proved to have died by the use.

The housekeeper buys the goods for which these businessmen fought, and they need her. If she knew enough not to do so, such stuff would not be produced, and all the energy and enormous cost of this four-year case and its accompanying evils, would have been saved. As it is, the public is far worse off than it was before this decision was given.

The same truth holds in her ignorance of textiles, their strength and wearing quality, and the intelligence of her demand. Millions of pieces of cloth are manufactured with the sole idea of gambling with her taste and ignorance, and she of course pays the cost, or rather she does not pay the awful one of the waste of life and ambition. If she did, she would learn.

Again, with the rented house. She who knows only surface effects, and the ordinary demands of fashion, sees no further than the outlines of the building, and because she does not see, many a builder is encouraged to erect the most worthless, dangerous structures, costing exaggerated amounts to run, and often falling apart from the use of poor, unfit material, or burning up perhaps because of the cheap and dangerous installment of gas, or wiring. Yet the rent is just as high as the house built for the knowing one: the effect upon society and the business world is disastrous in the extreme, and such commercial success encourages men to consider a business contemporary who cheats and destroys, who kills his competitors and "gets away with the goods," a *clever* fellow. Such competition is villainous in the extreme and is made possible largely through lack of knowledge on the part of the consumer—The Woman.

The answer is organization, study, knowledge, understanding, action and co-operation of all the parts of society that are in-

ORGANIZATION OF THE CONSUMER

volved, that through the united and intelligent demand of the consumer, business and government may be protected in honest efforts, and the economics and efficiency of each—through contact with the consumer—be put upon a basis that is less nerve-racking and more sympathetic, honest and healthy.

CHAPTER VI

HEAT, LIGHT, AIR AND WATER

"The Earth—the womb of the Universe. Light and Heat the parents of Life, generated in Air, sustained by Water"

Strange as it may seem, the masculine element found in the rough, is a destroyer of life, while even the primitive feminine is found everywhere to conserve it to the best of her ability. This may be the result of man's spiritual foresight in an unconscious vision of the future, which makes the spending of life seem as nothing, so long as he is moving on in the light of his present and worldly desires. Woman, on the other hand, carries the burden of giving birth to the race, and nursing its future existence. She would therefore guard this life waste, gently mould it into being, and see to its soul's perfection. And she best accomplishes her purpose when she wisely utilizes the natural and simple material at hand, through understanding the meaning, feeling the life purpose, and knowing how best to put it to use. Woman, of herself, would move ahead but little. All her time would be consumed in the one effort to complete the thing at hand, but when man leads the way, she follows with a devotion that is wont to scatter her very substance. And civilization, on the one hand, is that much poorer, for her part in it is not altogether fulfilled. She must ever return and build up anew. On the other hand, civilization is enriched by the ushering in of new elements, new conditions, new equipment, that must eventually be the means of regenerating and uniting all sides of life into a perfectly organized Whole.

In this progressive and ever-developing journey through Nature's garden, let us pause a moment and build a home to the Spirit of Life. Heat, light, air and water form this four-sided structure, while Heaven is its roof, and the Earth its foundation, and let us keep this picture ever in mind when we think of the houses built by man; for the necessity of these

HEAT, LIGHT, AIR AND WATER

elements in quality and quantity is but crudely valued in the mind of a City. All are Nature's gifts, freely and wonderfully bestowed to lead man on to his best, and yet we shut out the light, cruelly tamper with the heat, ignorantly misuse the air, and willfully pollute the water, corrupting the earth and interpreting falsely the vision of Heaven. The object of a house is to protect the living, not to entrap for death, and it should be a private and public disgrace to every citizen of a community in which such death traps are found; for the intelligent appropriation of air, light, heat and water would make men more nearly men, than even reading, writing and arithmetic, and would establish the efficient life that in its larger feeling needs must have such equipment. Perhaps Mr. Chambless may be able to solve some of these city problems by the practical demonstration of a real live Road town. Let us hope that he may be encouraged to do so.

Sunlight, the great purifying and healing force in Nature, is indispensable to health and progress and should be encouraged to enter freely—not always glaringly—into every corner where human beings dwell. In fact there can be no health, or lasting efficiency where this daylight is not allowed to penetrate. At the same time artificial light should be used sparingly and installed with the utmost caution, for its cost is not merely what is registered in the meter, but a goodly share of the amount given the doctor, the oculist, and druggist. The eye is the organ for the reception of light, but unless it be used intelligently and exercised rightly, *it* pays the real and mighty cost.

Sometimes it seems odd that so little attention is given to the study of the correct use of this organ, when we consider the tragic condition in blindness and the vast number of people now on that road. Probably there has never been a time when so many glasses were needed, or when the eye was so misused, as the present. Whereas a few good habits formed in youth would do much to insure good sight in age. In the first place, we strain the nerves by looking at things intently, when we should merely allow them to look at us, as it were, by relaxing the muscles to the reflection. All staring is dangerous except for a momentary exercise. Then again the muscles need constant

PRINCIPLES OF DOMESTIC ENGINEERING

attention, and where one's occupation does not give sufficient movement to the right and left, as well as upward and downward, special daily exercises should be practiced by moving the pupil as far as possible in every direction, afterward making a circle first to the right and then to the left. Particularly helpful is the practice of looking upward, raising the eye as high as comfort allows and resting it there for some time. This is an exercise that everyone needs, for the reason that our present life is full of habits that allow the eye to droop downward, and unless the uplift muscles are encouraged, the whole eye becomes weak in proportion. The attitude of prayer has a useful meaning here. When people have learned to overcome eye trouble through exercise and the right *use* of the eye, and to look to its care from the beginning, by using it as a mirror instead of a tool, much will have been done to reduce the need for an oculist, and to insure the health of this organ in the child.

Home-makers ought, in addition, to better interpret the science of the action of light and what is truly to be desired in the lighting of a home, and arrive at effects that are not too strong, or too artificial in application, for there is great art required in the lighting of a house, both for beauty and for efficient eye service.

So it is in the heating. It is as easy to grow accustomed to an overheated house as to one overlighted; perhaps easier. And here again lies great danger, for a dry hot temperature that tears apart the framework and the furniture has the same disastrous effect upon the human structure. Probably no one improvement is more needed in the average home of to-day than to have the coal furnace, or steam plant, out of the cellar, and bring in the supply of heat from a public station, automatically adjusted to the right degree for health, by the use of a regulating thermostat, and moistened to a normal percentage. Not only would this eliminate a large part of the dirt now endured, but it should add enormously to general human efficiency. For even the most perfect systems of heating are made unhealthy by the possibility of coal gas, and the difficulty and expense of control, so that when they are spoken of as comfortable and

HEAT, LIGHT, AIR AND WATER

satisfactory in feeling, the lack of moisture and the danger in overheating are serious faults.

These things pollute the air, just as does the smoke and dust nuisance. That the same air cannot be breathed over again by the human organism with impunity, and that windows should be kept open most of the time, is fairly well understood even by the uneducated, but the dangers lurking in the substances that are allowed to be a part of the only element that is truly life-giving and regenerating, is sickening to even consider. We find all kinds of poisonous gases, chemical particles, and unpleasant odors which destroy the joy in life, cost the community fabulous sums, making the taking in of a right quality of breath almost an impossibility except in some isolated sections of the country.

If it were fully realized that the highest and most direct life-giving substances are to be found in air that has not been contaminated, surely more attention would be given to purifying the atmosphere in which we try to "live, breathe and have our being." Perfectly pure, fresh, stimulating air, smelled far up into the head, and allowed to pass freely into the entire body, is a natural and rational cure for almost all ills, and surely is a guarantee against the beginning of illness. A clean, clear, open nasal passage, the enjoyment of natural and delightful odors, the open relaxation of one nostril and then the other, and the sensation that the head is receiving all it can utilize, is a simple way to build up both brain and nervous system, so that the whole body be made stronger and more firm.

The perfect man, or the 100 per cent. efficient one, will never appear until the right kind of air is provided for his welfare, and he learns how to breathe and best appropriate it.

So far the subject of air has not been given the collective public attention that has been devoted to the subject of water. Perhaps because the bad effects are not as definite. A direct sickness, such as Typhoid Fever, may follow the drinking of bad water, as Ptomaine may result from poisoned food, but a completely diseased system, and a broken constitution is the forfeit paid for the continued use of bad air, making the one who breathes it and tries to do his best, handicapped indeed.

PRINCIPLES OF DOMESTIC ENGINEERING

Another problem before the housekeeper is that of the modern water supply. In the days of old, when the water was soft and the surface rain the standard of quality, home operations were more readily accomplished. The hard, so-called, "City-Water" that comes oftentimes through the rocks and wells that are hundreds of feet in depth, is not only difficult, but costly to handle in the cleansing of things. We wonder oftentimes whether it is as resisting and unassimilating in the part it should play in the purifying of the inner man. Is hard water good to drink? It is doubtful. And even though softening properties may be added, are they not as unnatural as they seem to be in the laundering and washing of articles? However, let us make no decisions here, for lack of evidence, and speak only of the value of baths. For unless the skin be kept clean, even the best of air is of slight avail. The twenty and more miles of tiny open pores, exhaling more than two pounds of dead matter daily, and inhaling the spirit of life, must be ever ready to perform their function, freely and naturally, or the body becomes an inefficient machine. To this end, public baths, as well as private bath-rooms, are a salvation in modern life where people are brought together in an atmosphere too close for human comfort. Baths that make the skin respond with a healthy glow and activity, have become not only a personal luxury, but a public necessity and a wise and health-giving undertaking for every progressive municipality.

If we could but impress ourselves with the importance of the right use of light, heat, air and water, and the growing possibilities attached to their interpretation, the form and manner of their use would not be so abused.

CHAPTER VII

THE EXTERMINATION OF THE FLY AND THE MOSQUITO

"Sanitation rests on the right estimate of the importance of little things"

"The dangerous insects now known as the 'house fly' and the 'house mosquito' should be renamed the 'typhoid fly' and the 'malarial mosquito.' Their breeding places would then be abolished"

It is astonishing how many people accept conditions as inevitable, simply because they have always existed. How skeptical they are when it comes to receiving a new fact, and how ignorant oftentimes in their defense of the old, though experience is forever teaching us this lesson. Interpreted in one way, such an attitude is sane protection against fraud, yet in another, it becomes little less than criminal in effect, by holding to present disorders through fear of playing the fool. But how often we find the fool the wisest of characters inasmuch as he practices with the wise habit of an ever open and receptive mind. It has taken us ages to realize the simple truth that uncleanness is one of the greatest of earthly menaces. The state of coming in too close contact with the cast-off substance of animal, vegetable and mineral life.

Amidst the wonderful progress of Twentieth Century civilization how strange it is that after generations of the most profound study of nature, we find all over the country, even upon University Grounds, and the property of the richest and greatest of citizens, two common and deadly insects allowed to breed by the billion, under the worst sort of conditions, and spread their death-dealing effect almost unchecked throughout the civilized world. Is this sane? Is it safe? Is it righteous? And is ignorance sufficient excuse? If not, then with the present knowledge of what can be done to prevent such a pest, there should be a law adequate and enforced, and make it compulsory

PRINCIPLES OF DOMESTIC ENGINEERING

to "clean up" the premises, and if necessary allow no man to own what he cannot keep clean and safe, for his neighbor as well as himself. Inspectors should be on the alert and a notice be served upon all guilty tenants and owners, as well as a notice posted upon the property stating just what is there found to exist, and it should be made a disgrace to allow for a moment, conditions laden with danger to health. In the meantime the scattering of such information as will insure public recognition of just what the fly is known to do, and why the mosquito bite is to be avoided, should be the duty of all who understand, until the elimination of flies and mosquitoes is seen to be a hygienic necessity.

The story of the life of each has been published so often there is no need of reciting it here, further than to remind the house-keeper—whether public or private—that the fly born and bred in egesta carries to our food the sickening substance that ends in a list of digestive disorders. From stomach complaint and "ptomaine poisoning" to intestinal disease and typhoid fever, and in fact there exists strong evidence that tuberculosis and smallpox are even carried by the same house fly, as well as many other less known and unnamed disorders; and that the mosquito is responsible for that widespread contamination of the human blood commonly classed under the head of "Malaria" and extending from "just a little temperature" to a state that must mean death. A poison that in some cases seems to lurk forever in the system, ready to assert itself at any moment, and which reduces one's efficiency to a tremendous extent.

The lessons from Panama, and from many parts of our own state where good work has been done, near and definite as they are, should teach us conclusively that not only is the health side of this subject worthy the attention of every intelligent citizen, but the economic, social and domestic factors involved are enormous. To redeem swamp land by simple ditching which is neither expensive nor difficult, the cost being actually no more than two cents a linear foot, the labor cheap, and the fact that when it is done, it is done once and for all—save the slight repair work that may be needed from time to time—is well worth the attention of the alert business mind. And think of the

EXTERMINATION OF THE FLY AND MOSQUITO

comfort that would result to the country. Besides the very tangible truth that people do not like to live in a community where they are made miserable; as mosquitoes do often make it impossible to exist with any sense of pleasure. They swarm out in the most agreeable part of the Summer day, when one is trying to rest after hours of occupation, and so destroy the peace of the atmosphere as to be a torment to both soul and body. To know that the majority are raised within a stone's throw of one's abiding place, and only in stagnant water, should make the good housekeeper ashamed to the core, and start her on a tour of investigation to find from whence comes this curse of the fair Summer. And she will probably find the greater part of the swarm raised upon her own premises in everything and anything that holds water for ten days, or more. From the thimbleful left by accident in the bottom of a flower vase, to the ornamental fountain or pool in the garden. From the bend in the dented, or broken gutter on the roof, to the rain barrel or catch-basin, the cesspool, or the old well. Anywhere—the places are without number—that watery liquid is allowed to stand.

While the Boards of Health have it in their power to take the whole subject in hand, they are helpless unless the public demand is backing them by the way.

Looked at from a progressive standpoint, there probably is no crusade that would so effectively and thoroughly clean up an entire town, as one initiated against flies and mosquitoes. It must needs penetrate into every dark corner and alley, and every back yard and cellar. It would drain the old puddles and ponds, and remove the old bottles and cans. All the garbage and manure piles would be done away with, and the whole town would be taught how to keep itself clean by finding where the failures occurred.

The fact that there is no necessity for the breeding of mosquitoes in every civilized locality, is easy to understand and illustrate when the whole district is efficiently attacked, as it were, with a sanitary fine-tooth comb for this purpose.

Their effect upon children and animals is cruel in the extreme for a sympathetic age to countenance. And outdoor life—

PRINCIPLES OF DOMESTIC ENGINEERING

which ought to be the healthiest and happiest part of country-living—in a vast number of places cannot be indulged in at all. Fortunately the Mosquito Commissions of New Jersey are gradually being instated. When twenty-one Counties become active this long-endured pest will soon be an evil of the past and the fly, the dirty fly, must follow, thereby proving our little State the most sanitary on the map.

Any such unclean surroundings are a home menace; a preventer of the right sort of progress, with no excuse for being, save laziness and ignorance. Does it not behoove the house-keepers then, to do their part in the elimination of such domestic dangers, knowing the cost is slight and the returns abundant? Is not co-operation and education the way to keep a town clean, organized and in running order? For the carelessness of one is the undoing of the many. No town can be healthy where flies and mosquitoes are abundant. Neither can a community progress unto the highest stage of beauty, or social importance, that is not clean in *all* its parts.

CHAPTER VIII

A HOME MUNICIPAL LABORATORY

"For it is true in housekeeping, as it is in business enterprises, that systematic study is needed to furnish the broad foundation upon which improvements in household operations should be based"

The answer to almost every problem in life, we find at length to be education, but the question that arises is, what should be meant by this word?

A teacher is truly educating when he encourages each pupil into individual independence, through establishing a self-contained and progressive attitude of mind, that of itself develops free and constructive thought and action. In other words, when he shows the child how to control and guide his own personal ship, or ego, through the deep waters of life, and is not merely helping him to load a cargo unrelated to his future use or skill.

The physician is performing his highest duty when he instructs his patient how to heal himself, and gives what information he can to further this end.

The business man who is helping other people along, at the same time that he is helping himself, is preparing a greater market for his own operations than the one who grabs all he can, thinking only of himself. Just as the Society with a high sense of responsibility, develops itself in all parts, and the knowledge that is put into action and made to relate itself to all movement, enlarging thereby the personal power and evolving better conditions, is the only real knowledge worth while.

The value of beauty is in educating the feelings to a finer form of expression and thus inspiring each one to create, after his own best kind. The artist, therefore, who endeavors to make his pupils independent and original, training them only in principle, is doing his very most. Just so the priest, who instead of preaching and scolding, shows his followers how to live

PRINCIPLES OF DOMESTIC ENGINEERING

the God-like life, each in his own way, explains the action of spiritual and psychic law and teaches the need of religion in commonplace things—that the people may be happier and more whole in their every effort—is educating his flock in the truest sense of the term.

And the City which includes all these things, would further its own interest and that of every inhabitant, if it would interpret its government in terms of education instead of in terms of law. If it would spend its time and strength in *showing* the citizens and not so much in declaring, and its money in instructing them how to live, instead of trying to enforce civic cures. The home, as the student of the Government, and the Government as the natural educational civic center,—ever ready to help even the least of the citizens into a better form of himself—is, we believe the ideal solution of the much discussed problem—Education. Just as the Federal Government has through its Department of Agriculture, started a nation-wide work to teach the people useful and practical things, so we would have each city have a central station of its own, and where the people could not come to *it*, the results could go to the people.

It is widely acknowledged that disease, poverty, and crime are the result of ignorance, and that evil generally—unless it be the natural happenings of the Seasons—is absorbed not by piety, but by righteousness, and furthermore it may yet be seen that even the periodical disturbances of the elements are largely due to man's continual stupidity. Certain it is that he can overcome much even here, by proper education and habit.

But to return to the home and its particular and immediate needs in its progress for itself and for the City.

The would-be efficient housekeeper is continually confronted with difficulties in the what, why, and how, of her domestic world. Her business of home-making is much the same as the business of city-making, and is no small work to attempt. She must be a teacher, an artist, a priest, a physician, a business-manager and a society leader, as well as a philosopher and a scientist. All these together, with her natural aptitude, make her the mother, the food carrier, and the inspiring factor of the race.

A HOME MUNICIPAL LABORATORY

To efficiently perform such a set of functions, even in the simplest of ways, requires a source of supply, and where should she turn for this, if not to the government of her land? For it is well-nigh impossible for her to safely engineer her business unless she can guarantee the result, through knowledge of materials needed. The business of the town is to supply her with stuff; the quality of which is often unknown. Her commercial faith has been so abused, she no longer has reason to believe in the declarations of any one producer, manufacturer, or dealer, whether written, spoken, or supposed. This of course is quite unwise, and makes for civic disorder, as she has no way of telling the true from the false, even though she knows much that is right still exists.

There should, therefore, be established a testing place for foods, clothing and household equipment generally, that the honest, efficient business man be encouraged to higher standards, and the dishonest fake kept from being a public menace. The would-be-honest dealer is unjustly handicapped, and oftentimes put to death commercially, through ignorance on the part of the consumer. This is neither her fault, nor his, but an unfortunate and diseased civic situation that only a government of *all* the people, *for* all the people, *by* all the people can overcome.

Education should not stop at the High School, nor at the end of any particular course, but these splendid buildings should be ever open for the instructive use of all the citizens, all the time. A department of the City that consumes so large a part of the tax upon the people, should be equipped and ever ready for the use of all the community, including a sort of consultation place for grown-ups in how to spend and how to live for health and purse protection, a room for political meetings, and a hall for pleasure gatherings.

In establishing the Experiment Station, our ideal was to help in the standardizing of foods, household appliances and furnishings; to suggest a system of home operation, and a method of progressive management, in order to face the difficulties in the way of the present housekeeper, who is trying to meet modern demands with a proper balance between work and

PRINCIPLES OF DOMESTIC ENGINEERING

rest, so as to prevent fatigue and depletion. This meant attacking the subject from many sides, for there is no *one* easy and simple solution. Our plan was to instruct—in so far as we were able—the home-maker in the what, why and how of her profession, through relating her work in the public mind with the larger idea of government, to the end that she might carry out her feminine and patriotic mission, by turning the public attention to her need of more accurate civic knowledge. We gathered together much information and used it in testing, experimenting, telling and showing as our ways and means would allow. Whenever we found anything up to standard and worthy of close consideration, we frankly published its maker and the name and address of the dealer, believing that the return for one's money is more desirable than any consideration of personal suspicion. Our success with the limited means available, was so far-reaching that we conclude from this practical experience something like the Experiment Station on a larger scale, should be a part of every municipality, conducted with as little red tape as possible, and furnishing as much reliable information as may be attained through an organized chain of such Bureaus. Each City should appoint women—of course—to have part in the upkeep, and perhaps control such a laboratory, but men should design and conduct it and make it an educational function of Government, of use to all the people.

CHAPTER IX

MORAL STANDARDS

"Our antagonistic social system is the cause of immorality"

In setting up a system of "thou shalt nots," Civilization has been the cause of misleading the mind from where it should focus, and concentrating it upon what it ought *not* to entertain. To be sure the Bible gives most complete and careful instructions as to how one should act upon all occasions, but the commandments, together with the lessons of vengeance, jealousy and wrath, the vision of a personal God casting down fire and fury upon all who do not "Bow down to Him and worship Him," are interpretations that have led the world of Christendom astray and influenced men to do and be what they conceived was like unto this supremely powerful Being, for how could they think, or dream, to become more holy than their Maker?

Again, the interpretation of morality in the light of sexuality and social custom, has added to the bewilderment of the mind, and put a serious pressure upon the normal action of creative independence. Because a certain method is right in one age and one place, is no guarantee that it will always be right. Any more than to suppose the thing beautiful at one time will, under all conditions be beautiful. It is a matter of understanding and of growth; of development and of motive.

On the other hand, spiritual law, like physical law, is ever operating in the same way, under the same necessity and through the same principles. Our business as moral beings, then, is to understand this law and apply these principles. Not to establish rules and creeds as arbitrary enforcements, that make even the child who is told to obey, conscious of the inconsistency and unreasonableness of the command. "Never tell a lie," says the mother, and in the next breath: "Tell Mrs. Smith I am not at home." "You must not hit your brother," says the father, and turning to his wife he replies: "I'll knock that man down

PRINCIPLES OF DOMESTIC ENGINEERING

if he crosses my path again." The child mind is confused, and he wishes he were grown up and could do as he pleases, like his parents. The basis of the method is at fault, and an immoral, or unmoral environment results, producing for society too large a percentage of both the willfully evil, and what might be called the negatively good, and far too small a class who act from independent conviction and appreciation of the real social law.

The beginning of civilization, whether in the child or the race, is when there has been developed sufficient ability to evolve from the experience of the past a mode of action effective for the present. The baby that burns itself a few times, knows that it should keep away from fire. And the race that suffers in bondage knows that man's authority is not the highest.

Ideals are the summing up of the experience of the past, formulating it into law, and testing these values in the present, *for the future*. If this age fails to sum up and put into *right relationship* the ideals for this age, the next age will have to do the work that should have been done in this, thereby neither making the most of its allotted talent.

Commandments and creeds, domination and negative goodness, may make for immediate control, or perhaps contentment, and an easier system of management, but they do not—in the experience of the past—give either permanent happiness, a developing productiveness, or a progressive people, but rather a dead age of discontent, and suppression.

The oyster moves, lifts itself up, and knows certain things are tasteful and distasteful, just as the animal spends its time in seeking pleasure and avoiding pain; but to be human, means a consciousness of self-direction, the making or creating from such experience something worth-while, according to one's talent and knowledge, for Creation is discovery. The putting of things in new relationship, and the constant change in relationship we term progress. The secret of all human pleasure and power is in working towards more and more harmonious relationship; keeping alive the spirit of youth, by creating fresh ideals and thus moulding the life of this and of future generations.

MORAL STANDARDS

Within such a consciousness of growth and responsibility, we would evolve a system of morals more fitted to what is called Freedom, or liberty of action, for as man is free to do, or not to do, within a given limit, he will grow, or not grow, in proportion to his use of this responsibility. Two factors enter here, that we must join together at the offset. Masculine intelligence and feminine sympathy. While both are capable of including the whole, neither can properly produce by itself. Intelligence gives us knowledge of co-operative strength, but sympathy co-ordinates the members. Intelligence has proved "No man liveth unto himself alone," and that each *is* his brother's keeper. Sympathy shows him *how* to live with others, and the *way* to keep his brother, and so a spiritual law is deduced that reads onward and upward, not alone, but in mass, for only that which is given in the right spirit can profit a man. This we know must be applied, and perhaps a new theory, or vision of selfishness will result, for it is well understood that all moral action rests really upon the thought and feeling of *self*. To acquire in order to *give*, is vastly different from giving in order to acquire. Each involves self to a dangerous degree; therefore, we would as nearly as possible *eliminate* self, for *self's* sake, and live for Ideals, contributing our substance to the building and use of these, and to the Cause in which one chooses to enlist. For while every man has a talent, and a purpose all his own, his realization of it depends upon his devotion not to himself, but to the latent ability within him; his power to overcome, and his willingness to die, if need be, that good may live. Moral standards thus become an individual decision, not simply a custom as is so often the case. The motive makes the act, and the act explains the status. Education for intelligent motive is therefore the answer, and righteousness the key to achievement. Co-operation is the system. Co-ordination the way. Thus public and private morals are a matter of each one's own conviction prompted by a controlled, but sympathetic emotion, and not by habit, convention, or tradition; a personal, progressive and ideal attitude toward every situation; the moving on of self in higher and better relationship.

Applying this to the home, we find it has a practical outcome.

PRINCIPLES OF DOMESTIC ENGINEERING

Everyone through sympathetic understanding, helps everyone else to realize a common interest, that all may profit thereby.

The policy adopted at the Experiment Station was that of helping each to *want* to do his part in the common economic endeavor. It was considered immoral to leave a room, for instance, any the worse for having entered it, or to act in a way to interfere with the progress of another. Law, as the basis of freedom, gives a chance for all human expression,—psychic and social law. Construction is ever the moral aim. Destruction is immoral, except for the express purpose of betterment. A high motive, a mutual understanding, and an active and co-operative desire to realize it, is the moral flag of righteousness, around which the family can “rally,” carried to the extent of endeavoring to leave each as well off, or better, for coming together. The what, why, and how of every question interpreted in terms of a living, constructive morality, prove again the Efficiency System, a practical working method of realizing even personal goodness. For one is soon convinced that to work to produce an ideal, through independent and original action, is the most direct road to happiness. Housework is one of the ways of making such action possible, and giving in return just enough discipline to be worth the effort. The home is the practice ground for happiness and more efficient living, and there is nothing required in the modern house that should not add to this standard. Hospitality and sociability even have their moral form of expression. Why should a hostess provide what she knows is not good for her guests, even though their appetite and habit may demand the thing in question? Again, in the social world there seems to be little or no conscience about how one’s time or state of mind shall be interfered with. Confusion and waste run rampant here and still no one seems to question the moral significance. Perhaps an average of one-third of a life is frittered away by others, with no sense of value, or rightness. Stilted and unprofitable meetings that help to make of us social victims. Children in this way are wiser than grown-ups. They frankly express their wishes, and go and come as they choose. “I don’t like your game. I want to go home,” is a frequent childish excuse for

MORAL STANDARDS

breaking away from another. With just a little direction, they could be made to understand the morals of such action, and they are far more just than their elders, in that they suspend rather than pass judgment too quickly upon another.

It is said from an experienced standpoint that it is impossible to rightly judge, because the facts are never all in. Whether children sense this truth, we cannot tell, but certain it is they seem to take more real pleasure in moral action than their parents, and are frequently more consistent. Moral education and moral practice have always been centered in the home, with a certain help from the church, but the church no longer holds its former authority, and the home has too often gone adrift in its mission. Let us not be disturbed by this, however, but turn our thought to the community and the Nation, encouraging *individual* moral action in terms of universal fellowship through the method of a modern practical philosophy. For the "Square Deal" of *Efficiency* is to "live and let live in the doing," and the true human spirit of building one's life is abroad and active in the land.

To purposely live to enjoy the fruits of other people's labor, is surely a moral sin. The human parasite and the snob are despicable members of society. To feed upon another and give nothing in return is truly a beastly state of being, where neither intelligence nor sympathy have any place other than low-form instinct.

Again, is it not immoral to deliberately waste one's time, talent, or substance? Should these not all be accounted for in the Great Book that promises freedom? Where obedience, and discipline are a matter of law, and not a matter of enforcement.

The moral life and the moral law, we know are essential factors, and moral practice has been the salvation of men throughout all the ages. The danger is with the passive acceptance of a stupid and dead system of morality that tries to *dictate* just what one shall do, and when he shall do it; by an ancient rule of thumb and a vision as wide as a string, instead of helping each member of society to stand on his own feet, think with his own head, and act by virtue of knowing the law that guides in control of emotion.

PRINCIPLES OF DOMESTIC ENGINEERING

The driving force should be simply a richer Life, and a higher Life. As human beings there is little or no difference between us. The distinguishing characteristics are partial. We are outraged at a manner or a form, when if we would give our entire and sympathetic attention, the life back of these uncouth gestures, would be singularly warmed into a new and better kind of expression. How moral it would be to cultivate a habit of bestowing one's undivided attention upon each member of society one meets, giving one's best, even if it be but a fraction of a moment. For the thoughts one has of another, play upon each, subtly producing after their kind. The mood in which are performed our most trivial acts is the moulder of the character of self and all one touches.

Thus the community forces may be made constructive, developing in happiness for each, or destructive, ending in calamity, depending upon the contribution of the individual to the general or larger moral atmosphere.

CHAPTER X

LOVE AND HOME

"Love is the life of man"

There are those who would reduce the entire Efficiency System and all of its principles, into the one quality called Common-Sense. If you have this, you have it, say they; if you haven't, you haven't, and that's all there is about it. Just as there are those who say the whole subject of the home and the family, the children and society, is a matter of simple Love. If love is present, all is well. If there be little, or no love, the situation is hopeless.

There is of course truth in these statements, for in the last analysis all success depends upon the individual passion that is back of every effort, and the simple quality of knowing how. These, however, are no more to be considered mere gifts from Heaven showered only upon the elect and withheld from the multitude, than that Heaven itself is designed for the few who are labeled at birth, and Hell for the others. Some kind of a personal effort must be made in order to arrive at any state of well-being, and the higher the state, the more difficult the road. While it is easy to agree with those who say these great virtues are the simple essential conditions, it is incomprehensible to think they cannot be arrived at through a right kind of education and discipline.

What is common-sense, except the faculty of being able to assemble all the known sides of a given subject and act in accordance with one's innate estimate of what is practical? While the tendency for self-preservation is strong and often expresses itself in quick decisions that seem to result from little or no preparation, no man can tell what has been the connection between another and his environment; his observation, attention, comparative quality, and memory may have been exercised abundantly throughout his entire life, encouraging a "common-

PRINCIPLES OF DOMESTIC ENGINEERING

sense" of high order. On the other hand, he may have had little or no opportunity for practice, and so his common-sense proves of a common order indeed. The human quality of summing up all the known facts and using the result in reasonable and effective action, is surely as capable of direct education through systematic training as any other power of human expression; and does not progress itself depend upon how this training is brought about? The kind of system that shall provide the facts? And the manner of their interpretation?

So with love. We find people who are constituted in such a way as to make them lovable, through a kind of sympathetic understanding, and this becomes their strongest factor in success. But that does not deny that love in others cannot be elevated, developed, purified, and made more productive through constant effort in the systematic training of emotion and appreciation. The latter meaning that power of conscious direction of one's will toward those things that are worthy and lovely. Appreciation grows with contact, and here is the great value in environment, but as Nature adapts her creatures to their surroundings through a gradual process of relationship, so we believe lasting good results from a progressive process in the betterment of things as they are, and not in sudden and artificial leaps that tend to educate beyond one's power of "common-sense" adaptability. To cultivate from the outside only, or to "refine" at the expense of substance, is a dangerous application of the better environment method. Yet in everyone there lurks a power of appreciation and a love for *something*. It may be anything from candy to religion, but a passion for the thing that one understands, or desires, is to be found in greater, or lesser degree in each human soul. To increase the kind of appreciation that exists, and guide into a higher form of expression this individual passion, is the purpose of a systematic love-training, which, unless it be centered in personal interest, will not properly accomplish its object. Everyone knows how much easier it is to apply one's self to the thing in which one is interested, and how extremely difficult it is to force the attention where there is no appreciation. History and experience teem with proofs of the enormous capacity of men and women under

LOVE AND HOME

the passion of love. Family love, love of each other, love of home, of friend, of humanity, of occupation, of one's self, of possessions, of Nature, and of God, has, we know, been the real motive power of the world, and while back of it is that great reality,—the passion for the expression of *self*—it must come through knowledge of and disinterested love of *self* and the activity of one's soul in a progressive devotion to the thing liked best.

There will come a day when, if the individual cannot decide for himself the vocation for which he is most ably fitted, we believe the State will help in placing him where the result will be efficiency. For each can do something worth while and constructive, if he could in the beginning but unite his passion with his ability.

It is surprising how many people there are who seem to want most to do the thing for which they are apparently unadapted. Keener pleasure seems to be found in accomplishing those things that are somewhat difficult for one. At the same time, these very people are capable of an individual point of view of use in all endeavor, and equipped with some common class-tendency. For instance: the one who has an artistic bent, and yet chooses a commercial routine, is apt to make a greater success, if he impresses his business with this art-tendency. So the one who would love to teach, and finds it necessary to lay bricks instead, may search for facts by the way and instruct his fellow-workmen in such art. For, as everything is in each thing, and each in everything, it becomes possible to love the thing you must do, by including within it the thing you would love to do. Genius itself is but the capacity for application, and the faculty of never forgetting a truth. But some one will say: how can you love that which is distinctly disagreeable? The writer knows no better way than to accept it, if need be, incorporate it into one's life, and devote one's self to understanding it, with a vision ever fixed on the thing you *would* have. When the discipline of the unpleasant has been acquired, it passes on and leaves one, just as the mischievous child no longer teases his young brother when the latter refuses to be troubled. As with vocation, so with one's companions. Through the

PRINCIPLES OF DOMESTIC ENGINEERING

development of insight and understanding, almost anyone becomes interesting, and appreciation and devotion result, or, the companion passes out of one's life, and others take the place; so also do the loved ones, but it is far "better to have loved and lost, than never to have loved at all." It is the love that has been created that counts, even when it makes one suffer; not the condition.

Again, in the family it is the form of love that is developed, that really makes the home. No equipment and no system, no talent and no amount of wealth, are worth having, where there is no devotion to the home itself, and the atmosphere it breathes. Understanding and insight are the same keys found to unlock the door here, as elsewhere. If we would have a child speak correctly, we place him at an early age where the language and diction are faultless, and at the same time instruct him in the form and manner to be acquired. So with Art; the environment as well as the child should be attended to, and the child be trained through seeing good things about him, being instructed as to what makes them good, and developing his own opinion through his own impressions. Watching another work, studying the principles and applying them in one's own effort, gives better understanding and arouses a greater interest than merely a distant contact through rules alone, which is a purely intellectual knowledge.

Housework, we know, becomes much more fascinating when interpreted in terms of one's temperament and entered into with love in the doing. The one who is able to draw upon Self to make the imperfect environment more perfect, who loves to devise ways and means of conquering the situation, is developing a love that can be increased and guided by one's own consciousness, through applying one's self properly and keeping in mind a clear vision of the end desired, no matter what the way includes. The incentive for devotion is always self-expression. Perhaps in no phase of life do we see this so plainly as in devotion to a Cause, or Ideal. When people are willing to die, if necessary, in order to express their feeling toward a subject, Love has indeed ruled the day, and they have found themselves in spirit, if not in truth. Love moods may be made most use-

LOVE AND HOME

ful when spent in enthusiastic effort,—for a mood is but a state of feeling. Every mother experiences this kind of emotion instinctively and naturally in her willingness to give herself for her child. The effort now should be to carry this mother-feeling out into the world, encouraging love of principle, love of neighbors, and love of humanity, through understanding that the only real expression of the better self includes all these. Devoting one's self passionately and systematically to those subjects that bespeak a finer order of mutual intelligence and understanding must ultimately broaden and deepen the love nature.

"The benefits of affection are immense; and the one event which never loses its romance is the encounter with superior persons on terms allowing the happiest intercourse."

There is no pleasanter happening in the home than the gathering of interesting people into the family circle. And when all is said and done, it is not so much the distinguished host who draws, as the quality and kind of love abiding in the house. It is what the home *loves* best that has the profoundest interest for outsiders, bringing them into sympathetic touch with each member of the family through mutual sentiment and mutual affection. For a man is not one thing and his love another. His love is himself. That we allow our love to be one thing and our activities another, is a calamity for home and society. We need less sentimental expression for our feelings, but more, infinitely more, real sentiment. A love motive that becomes a passion will do more in unifying our efforts than a whole college course of training.

Love certainly "makes the world go round." Therefore, so great a force in all endeavor should have our every attention and best encouragement in the home. To the end that all natural affections, whatever they may be, shall broaden in scope until they include not only people and things, but law, order, and human nature as a whole. From little beginnings, great loves come and grow.

CHAPTER XI

HOUSEWORK AND DEMOCRACY

"Democracy, from the standpoint of the Universe, is the inherent tendency of the Universe to give to every individual the opportunity for self-expression"

"Ability to recognize and act up to this law (of equal freedom) is the final endowment of humanity—an endowment now in process of evolution"

Probably no one has ever passed through this life without asking the question: "Why was I born?" And yet how little help is offered that is directly useful in solving this question. Even though upon each one's theory of the what, why and how of his life, rests the net result of his being. Up to very lately those who would try to help the individual to find himself through any method of reading his inner forces and tendencies, were condemned as witches, or liars. And yet is there more guess-work about the honest psychic, who through natural gift, study and experience, tries to aid one along on his path, than is found with the doctor, for instance, who thinks possibly this the right medicine to give and so convincingly tries it; or the scientist who believing he has discovered a law, formulates it for the use of the people? Is not the same suspension of judgment necessary here as elsewhere? For the facts are not all *in*. The idea that some men can read for others, is no more to be condemned than that some can think, or see, for others. It is not the character reader that society should condemn, but our ignorance in not knowing enough to co-operate with this class of workers; and not be led adrift by them. The constant effort in trying to fit "round pegs in square holes," is wasteful, childish, and stupid, when we realize that variety in form is one of Nature's first lessons, for not only have there never been two individuals alike, but the animals, insects, and stones all differ in expression and design, and yet fundamentally all are made from the same substance, live in the same atmosphere, act in

HOUSEWORK AND DEMOCRACY

accordance with their species, and die to be born again, in still different form.

In reviewing the history of the past, and the various powers of comparison, we find that a special tendency exists in the soul of each. A tendency to express both one's kind, and one's particular being. Each man has instincts and talents to be matured in the light of reason, and his highest obligation to himself and his fellows is to become as great as he inclusively can become. But how few there are who really know what form their own lives should take, and while there is no obligation to rely upon any decision save one's own inner sense, how helpful it would be if psychological readings, and vocational schools were in some way made available to all, as guideposts in the road; to learn the what, why, and how of one's work, and the what, why, and how of one's self; to clearly discern the relationship between one's self and one's home, one's community and one's country; to sense the closest of contacts between one's life and one's environment, even to controlling and possessing it. To have a conviction of God and His place in every condition, would be to bring Heaven on Earth in one great HUMAN Creation.

And although in all the Nations there is found no sign, or argument against, but rather all things in favor of man knowing himself and his work, loving his home, his country, and making an effort to realize the millennium as rapidly as possible, there is little in the educational standard of any system [save the "Efficiency"] that is effectively planned to this end. Thus the lack of self-knowledge contributes to our common enemy—social ignorance—which in turn stalks proudly over the Earth, breathing a spirit of commercialism, egotism, intemperance, and feudalism, that breeds the acts of war, bigotry, and hypocritical living, resulting in a state of repression and misery, that begins with the family and extends to the public, doing its fatal work by kindling the minds in the cradle. The force of the answer that "You cannot change humanity," is as weak as is its effort to be conclusive. The changing has never been tried from the standpoint of all following the same "Ideal," or of assembling in unity the various factors required. Life's experience has

PRINCIPLES OF DOMESTIC ENGINEERING

proved that there is no particular "ism" that can be used in the issue, but when and where has it ever been tried to federate all of life's values? Man will not be driven, neither will he be confined to less than he feels within him; but he is always ready to do his part in efforts that to him are important, and will work with an enthusiasm that is almost super-man-like when things appeal to his heart and his reason, and can be done with the sense of his own creative spirit. Under such a motive he becomes able, and ability rules the universe.

His education must, however, begin with himself, and have its first practice in the home. But this field will not be sufficient, unless he realizes his many-sided make-up, and interprets his personal home as a miniature universe, for about himself and his early habits lurk the seed of his future success.

The new democracy that is slowly but certainly establishing itself in this country—gradually being understood as a form of active and practical religion—is, we believe, the international school of suggestion that in time must unite the nations of the world. Without any patriotic egotism, it seems to be clear that our American mission is great, and we must assume it with faith and intelligence. In the United States, where all sorts of people are assembled, should begin the spirit of progress that ultimately must reach from each soul to the One Great Soul.

In the past we have believed that the highest of wisdom and knowledge was not safe in the hands of the mob, or useful to give to one's unthinking neighbor, but now no infinite knowledge is too fine for the least of our fellows. The Mother of democracy would share alike with *all* of her offspring, and use every possible effort to obtain more for the next feeding. The best of her faculties go up into the mountain to gather the fruits of Creation, returning and serving them in such novel way as to be tempting to even the weakest. And so all are made to share and share alike in the results of the experiences of others, and while every man has not the same chance because of himself and his make-up, each is given the same opportunity, and the same material, with which to develop his particular ability. And so the door is open to all, even though all may not enter, and Democracy realizes she can do anything so long

HOUSEWORK AND DEMOCRACY

as her children stand by her and learn how to organize and co-operate for a common end, but the secret of democratic success lies in the *motive* and *method* of working. All of its parts must be brought together as a *live* enterprise, and not as an institution. The first, meaning a living conviction; the second, a mechanical operation. The first has emotion and interest; the second a duty to further; and all the difference in the world is to be found in the result. When a thing is to be done, the main point is to interest those who will do it, and this interest is best put into action by making the person a part of the outcome.

Men are prone to give their best attention to the exterior of things. Women, to the interior. But as both attitudes are essential to complete and perfect growth, all action should be developed both from the inside out, and from the outside in, which means that there should be constant practice in the activity of that which constitutes the entire person; one's self,—or one's *personality*,—through one's own *created* environment.

As an illustration; the family organism together in the home, is a living committee, all enthused to the same cause and purpose, while the town council is generally proven to be an institution, no part of which is in intelligent sympathy with the other parts. One is a live body; the other a machine organization.

Housework is approached by the mothers, and the mothers here are all the women, with all the men as their partners. That the home may be the gainer, the women must love their function, and the only possible way to do this is to find their best selves in the doing. Everywhere we hear the cry that the girls no longer like housework. Why should they,—we wonder,—when the detail of the subject is far behind them in progress?

It therefore becomes an essential move to bring it up to the standard, by proving that all that is worth while in life, may be found in the *manner* of doing.

To give one's whole self something worth while, in a sense of absolute freedom, the way to work, is to make it *play*, by assembling all sides of one's make-up. For after all, there is nothing but work that truly brings joy to the living. To accomplish great deeds, and to grow by the way, is the only permanent

PRINCIPLES OF DOMESTIC ENGINEERING

pleasure. And as for the lower and higher tasks, there is no such thing in conception. It's the *way* one works, that tells the tale of culture and good breeding. To scrub the kettle, or pick the rose, is exactly the same in value. The only difference is the *motive* in each, and the perfection with which one does it.

To gradually work from the cruder way to the finest methods of doing, from the low and rough to the middle degree, on up to the best operation, is the way to progress and gain as you go, in the midst of the Commonest labor. Testing each step in the light of the whole, with an Ideal ever before one, making of all a science and art, and *being* the thing that you further. Gathering information from every source you are able, and working with heart and mind to develop that which is started. Feeling a close relationship to every kind of home-maker, and helping her who would keep the house, to know all parts in the contact. Working together at every stage to prove the value of combine. Showing the many housekeepers how best to accomplish their duties, by bringing forth in abundance, results of personal merit. For the truly progressive home is akin to democracy's method, and the God of both stirs them each to interpret themselves in *action*. The home and the business of every day, is the religion of the future, where no inherited noble birth, or caste, shall take possession, but a free, frank public conscience will move all things to solution. And the pulling together shall bring advance; the kind that has only been dreamed of. Tradition, conquest, and bigotry will go back in their holes forever. For the home of the new democracy will nourish no one of this triune. The public will then unload itself of deceptive, benevolent feudalism, and guide its citizens on to the goal through playful and living enterprise; we know no factor in education as strong as that of amusement. It breathes and bespeaks a friendship for all, disregarding the program of *conquest*. For the flag of this wonderful country is a symbol to *live*, not to die for; where each must be helped to find love and his work, and *through* these will come pleasure and Freedom. Housework, and the homes of the future will prove the *school* for such purpose. And as women and men shall make these fine, so *both* in the nation are needed. The new progressive idealism shows Democracy

HOUSEWORK AND DEMOCRACY

as a Religion, where men and women guided by God, *united*, shall work for its issues.

ADDENDA

A list of some of the efficient machines, devices, and utensils tested and approved by the Housekeeping Experiment Station, Colonia, N. J.

Also a partial list of a few superior foods, and other home-making essentials.

Automatic Electric Stove and Fireless Cooker.

Copeman Electric Stove Company, Flint, Mich.

Gas Stove and Fireless Cooker Combination.

Chambers Manufacturing Company, Shelbyville, Ind.

El Cooko and El Bako.

Pacific Electric Heating Company, New York City.

Table Disc Stove.

Cutler-Hammer Manufacturing Company, 50 Church Street, New York City.

Table Disc.

Simplex Electric Heating Company, 120 West 32d Street, New York City.

Hughes Electric Plate Stove.

Chicago, Ill.

Ideal Fireless Cooker.

Steam Cooker.

Toledo Steam Cooker Company, Toledo, Ohio.

Caloric Fireless Cooker.

Grand Central Palace, New York City.

Pyro Alcohol Marine Stoves, Alcohol Radiator and Lamps.

The Alcohol Utilities Company, 40 Exchange Place, New York City.

Small Alcohol Stoves.

Manning, Bowman & Company, 200 Fifth Avenue, New York City, or Meriden, Conn.

PRINCIPLES OF DOMESTIC ENGINEERING

Heat and Odor Extinguisher. (Hood for Stove.)

Sanitary Homes Company, 275 Morris Ave., Elizabeth,
N. J.

Garbage Incinerite.

American Incinerite Company, 150 W. 22d Street, New
York City.

Climax Garbage Burner.

Long-Landreth Company, New Brunswick, N. J.

Instantaneous Hot Water Urn.

Cutler-Hammer Manufacturing Company, 50 Church
Street, New York City.

Ruud Hot Water Heater.

Ruud Manufacturing Company, 81 Fulton St., New
York City.

Heller's Improved Hot Water Heater.

144 Pierpont St., Brooklyn, N. Y.

Steiner Family Motor.

Steiner Manufacturing Company, 14th & Warren Sts.,
St. Louis, Mo. (May be connected with almost any
device that requires power in operating.)

Coffee Mill,

Ice-Cream Freezer,

Bread and Cake Machine,

Mangle,

Grater,

Meat Chopper,

Egg Whip, etc.

Scrubbing, Renovating and Floor Polishing Machine, Rug
Cleaning.

Kelly Electric Machine Company, 1407 West Ave., Buf-
falo, N. Y.

Floor Polisher.

Vacuum Sales Company, 251 Fifth Avenue, New York
City.

Howard Dustless Duster.

Boston, Mass.

HOUSEWORK AND DEMOCRACY

Imperial Kitchen Elevator and Ice-Box.

Imperial Manufacturing Company, Williamsport, Pa.

The Ideal Regitherm. (To regulate furnace temperature.)

American Radiator Company, 104 W. 42d St., New York City.

The Judd Washing Machine and Mangle.

The Judd Laundry Company, People's Gas Bldg., Chicago, Ill.

The Easy. (Hand and electric.)

Dodge & Zuill, Syracuse, N. Y.

The Arora Quality. (Hand and electric.)

The Arora Company, 501 Fifth Avenue, New York City.

A Small Bath Room Washing Machine.

The Cunneen Manufacturing Co., White Plains, N. Y.

Sanitary Toilet Tongs and "All Off" Paper.

R. H. Macy & Company, New York City.

The Hessler "Baby Washer."

H. E. Hessler & Company, Syracuse, N. Y.

Small Gas Mangle.

Steiner Manufacturing Company, 14th & Warren Sts., St. Louis, Mo.

A Good Bell Washer for Rinsing, etc.

From any shop.

An Adjustable Bell Washer for Sanitary Tub.

Dodge & Zuill, Syracuse, N. Y.

Clear White Washer. (Electric.)

Portable Wringer.

Steiner Manufacturing Company, 14th & Warren Sts., St. Louis, Mo.

Ever Ready Clothes Line Holder.

Atwater Specialties Company, 335 Broadway, New York City.

Simplex Electric Iron.

Simplex Electric Heating Company, 120 W. 32d St., New York City.

PRINCIPLES OF DOMESTIC ENGINEERING

Hotpoint Electric Iron.

Pacific Electric Heating Company, 47 West Street, New York City.

Electric Iron.

Cutler-Hammer Manufacturing Company, 50 Church Street, New York City.

Vulcan Gas Iron.

P. S. Gas Company.

Electro Silver Clean Pan.

The Frank A. Rolling Company, 255 N. 5th Street, Philadelphia, Pa.

Chafing Dish. (Electric wire in handle.)

Westinghouse Electric & Manufacturing Company, 165 Broadway, New York City.

Table Grill and Griddle.

General Electric Company, 30 Church Street, New York City.

Waffle Iron.

Simplex Electric Heating Company, 120 W. 32d Street, New York City.

Cadillac Stove and Toaster.

Cadillac Manufacturing Company, Cadillac, Mich.

Nursery Milk Warmer.

Simplex Electric Heating Company, 120 W. 32d Street, New York City.

Luminous Radiator.

Pacific Electric Heating Company, New York City.

Bissell Motor for Sewing Machine.

F. Bissell Manufacturing Company, Toledo, Ohio.

Vacuum Cleaner—Hoover, Jr.

Hoover Suction Sweeper Company, New Berlin, Ohio.

Bissell Vacuum Cleaner.

F. Bissell Manufacturing Company, Toledo, Ohio.

Sweeper Vacuum.

Boston, Mass.

HOUSEWORK AND DEMOCRACY

Duplexo.

Vacuum Cleaner Company, 1193 Broadway, New York City.

Neversnick Electric Dish Washer.

Domestic Utilities Company, 145 Broadway, New York City.

"Table Butler."

McGraw Manufacturing Company, McGraw, N. Y.

Silver Table Butler.

International Silver Company, Meriden, Conn.

"Dumb Butler." (Side table.)

McGraw Manufacturing Company, McGraw, N. Y.

"Dumb Butler." (In silver and glass.)

International Silver Company, Meriden, Conn.

Paper Napkins and Towels.

Dennison Manufacturing Company, 5th Ave. & 26th St., New York City.

Paper Plates and Table Cloths.

Dennison Manufacturing Company, 5th Ave. & 26th St., New York City.

Paper Plates and Parchment Covers. (Separate.)

Vernon Bros., 66 Duane Street, New York City.

Paper Towels (roller), Dishcloths, Napkins, etc.

Scott Paper Company, 7th & Glenwood Avenues, Philadelphia, Pa.

Paper Bags for Cooking—Soyer Kooker Bag.

James Spicer & Sons, 50 Upper Thames Street, London, England.

Ever Ready Nutmeg Grater.

Hardware Specialty Company, Chicago, Ill.

Roasting Pan. (Cream City.)

Gender, Paeschke & Frey, Milwaukee, Wis.

Paper Garbage Bags.

D. S. Walton & Company, 132 Franklin Street, New York City.

PRINCIPLES OF DOMESTIC ENGINEERING

Taylor Fresh Butter Pan. (Needs ample amount fresh rich cream.)

Taylor Fresh Butter Pan Company, 476 Philadelphia Bourse, Philadelphia, Pa.

Sanitary Crystal Glass Ice-Cream Freezer.

The Consolidated Manufacturing Company, Hartford, Conn.

Egg and Cream Whip. (Fries.)

Lewis & Conger, 6th Ave. & 45th St., New York City.

Fireless Cooker Thermometer.

O. T. Weidman, 3416 2d Ave., Minneapolis, Minn.

Thermometers for Ovens, etc.

Taylor Instrument Company, Rochester, N. Y.

Christy Kitchen Spatula.

Christy Knife Company, Fremont, Ohio.

Thermos Dishes.

Coston Supply Company, 24 Water Street, New York City.

Thermos Food and Drink Containers.

Thermos Bottle Company, 210 5th Ave., New York City.

Dim-a-lite Electric Lamp.

Attracto Company, Philadelphia, Pa.

Sectional Kitchen Cabinet.

Janes & Kirtland Company, 135 W. 44th Street, New York City.

Ice-Cracker.

Sutherland & Marvin, 41 Cortlandt Street, New York City.

Quaker City Mills.

A. W. Straub & Company, Philadelphia, Pa.

Dilver Colander.

Dilver Manufacturing Company, St. Paul, Minn.

Rapid Lemon and Orange Press.

Whitehall, Tatem & Company, New York City.

Electric or Hand Bread Machine.

Sharpless Bread Company, Philadelphia, Pa.

HOUSEWORK AND DEMOCRACY

P. M. Self Cooker.

Phaeler & Company, 2d Ave. & 27th St., New York City.

Simplex Strainer and Seeding Press.

Simplex Saucepan Supporter.

The 4 S Food Press Company, 217 Quincy Street, Brooklyn, N. Y.

Wear-Proof Door Mat.

Wear-Proof Mat Company, 18 E. 17th Street, New York City.

Wilde's Ship Linoleum.

Joseph Wilde & Company, 366 5th Avenue, New York City.

Paint Used for Interior Work.

National Lead Company, 111 Broadway, New York City.

Interior Decorators. (Kitchen specialties.)

Bowdoin & Manley, 546 Fifth Avenue, New York City.

Blakeslee Serving Table.

Blakeslee Manufacturing Company, 4025 Chestnut St., Kansas City, Mo.

The Montclair Refrigerator.

Montclair Refrigerator Company, Woolworth Bldg., New York City.

Automatic Household Refrigerator.

Westerberg & Williams, Woolworth Bldg., New York City.

Tahara Automatic Silver Burnishing Machine.

Tahara Company of America, Glenwood Avenue and 2d Street, Philadelphia, Pa.

Foods under "Premier" Label—Molasses, Brown Rice, etc.

Francis H. Leggett & Company, New York City.

Sylmar Brand Olive Oil.

Los Angeles Olive Growers' Association, California.

Acker, Merrall & Condit Company, New York City.

PRINCIPLES OF DOMESTIC ENGINEERING

Sun Dried Fruits,
Olive Oil,
Honey,
Vegetable Gelatine, etc.

Otto Cargue, 1605 Magnolia Avenue, Los Angeles, Cal.

Ripe Olives.

American Olive Growers' Association, Los Angeles, Cal.
100 Hudson Street, New York City.

Grant's Hygienic Crackers.

Hygienic Health Food Company, Oakland, Cal.
Acker, Merrall & Condit Company, New York City.

Knackerbrod.

F. Kindt Company (Bakery), 1015 Atlantic Avenue,
Brooklyn.

Unbleached Nuts.

L. Biggio, 128 Park Place, New York City.

Belle Mead Sweets.

Trenton, N. J.

Whole Wheat Macaroni.

P. Daussa & Company, Brooklyn, N. Y.

Unsulphured Molasses.

Boston Molasses Company, Boston, Mass.

Raw Peruvian Sugar.

W. R. Grace & Company, 7 Hanover Square, New York
City.

Wheatworth.

F. H. Bennett Biscuit Company, 139 Ave. D, New York
City.

Cranberries.

Joseph White Company, New Lisbon, N. J.

Grape Juice.

Boericke & Tafel, New York and Philadelphia.

RETURN CIRCULATION DEPARTMENT
TO → 202 Main Library

LOAN PERIOD 1	2	3
HOME USE		
4	5	6

ALL BOOKS MAY BE RECALLED AFTER 7 DAYS

Renewals and Recharges may be made 4 days prior to the due date.

Books may be Renewed by calling 642-3405

DUE AS STAMPED BELOW

RECEIVED		
AUG 28 1996	MAY 17 2004	
CIRCULATION DEPT.		
SENT ON ILL		
JUN 02 1998		
U. C. BERKELEY		
SEP 02 2002		

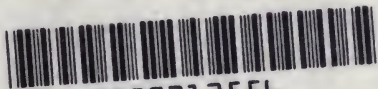
FORM NO. DD6

UNIVERSITY OF CALIFORNIA, BERKELEY
 BERKELEY, CA 94720

©s

YC 94126

GENERAL LIBRARY - U.C. BERKELEY



8000313556

405372

TX145

P3

THE UNIVERSITY OF CALIFORNIA LIBRARY

